

Form 3160-3 (August 1999)

DIV OF OIL, GAS & MINING

FORM APPROVED OMB No. 1004-0136 Expires November 30, 2000

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

bottom hole to

| APPLICATION FOR PERMIT TO | 6. If Indian, Allottee or Tribe Name Ute Indian Tribe | |
|---|--|---|
| la. Type of Work: 🛛 DRILL 🔲 REEN | TER | 7. If Unit or CA Agreement, Name and No. N/A |
| 1b. Type of Well: Oil Well Gas Well Other | Single Zone 🛭 Multi | 8. Lease Name and Well No. North Hill creek 14-8-15-20 |
| Name of Operator Wind River Resources Corporation | | 9. API Well No. 43-047-39646 |
| 3a. Address 1245 E. Brickyard Rd., Ste Salt Lake City, UT 84106 | 118b. Phone No. (include area code) 435-466-4131 | 10. Field and Pool, or Exploratory Exploratory Widect |
| 4. Location of Well (Report location clearly and in accordance w. At surface 195' FNL & 2,419' FWL (NEN At proposed prod. zone 175' FSL & 2,449' FW | W) Sec. 17-T15S-R20E | 11. Sec., T., R., M., or Blk. and Survey or Area Sec. 17-T15S-R20E, SLB&M 20E |
| 14. Distance in miles and direction from nearest town or post office* Approximately 55 miles SSE of Room | sevelt | 12. County or Parish 13. State Uintah Utah |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | 16. No. of Acres in lease 640 | 17. Spacing Unit dedicated to this well 40 acres |
| 18. Distance from proposed location* 4,950' from | 19. Proposed Depth 12,500' (TVD) | 20. BLM/BIA Bond No. on file |

5. Lease Serial No.

20G0005577

24. Attachments

Upon Approval

12,516'

| | | | be attached to this f | |
|--|--|--|-----------------------|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

1. Well plat certified by a registered surveyor.

to nearest well, drilling, completed,

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

applied for, on this lease, ft.

7,243' (GL)

- 2. A Drilling Plan.
- 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

Zions Bank - SB-509795

23. Estimated duration

35 days

5. Operator certification.

(MD)

22. Approximate date work will start*

Such other site specific information and/or plans as may be required by the authorized officer.

| 25. Signature | Name (Printed/Typed) Marc E. Eckels | 9-20-07 |
|-----------------------|--|---------------|
| Title Vice President | and the second second of the s | |
| Approved by Signature | Name (Printed/Typed) | Date 09-27-07 |
| Title | Offenvironmental Manager | |

Application approval does not warrant or certify the the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse)

Surf 611531X 43750054 39. 519 332 BHC 611539X 43751184 39.520350 -109.702389

Federal Approval of this Action is Necessary

WIND RIVER RESOURCES CORP. T15S, R20E, S.L.B.&M. Well location. NORTH HILL CREEK #14-8-15-20, Re-Established located as shown in the NE 1/4 NW 1/4 of Using Bearing 175 Tree Information. Section 17, T15S, R20E, S.L.B.&M., Uintah Not Set on County, Utah. BASIS OF ELEVATION Ground 2449 Bottom Hole 5285.28' (G.L.O.) BENCH MARK (59 WF) LOCATED IN THE NW 1/4 OF SECTION 10, T15S, R20E, S.L.B.&M. TAKEN FROM THE FLAT ROCK 90°08 (G.L.O.) 2419 MESA QUADRANGLE, UTAH, UINTAH COUNTY 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. 195 SAID ELEVATION IS MARKED AS BEING 7449 FEET. (Comp.) BASIS OF BEARINGS NORTH HILL CREEK #14-8-15-20 BASIS OF BEARINGS IS A G.P.S. OBSERVATION. Elev. Ungraded Ground = 7243' THE PROPOSED BOTTOM HOLE FOR THIS WELL IS LOCATED IN THE SE 1/4 SW 1/4 OF SECTION 8, T15S, R20E, S.L.B.&M. AT A DISTANCE OF 175' FNL 2449' FEL IT BEARS N13'58'39"W 371.55' FROM THE PROPOSED WELL HEAD. . 8 Set Marked Stone W.50.00N MILLIAN STATE THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS CHERARED FROM FIELD NOTES OF ACTUAL STATES SUPERVISION AND THAT THE SE BEST OF MY KNOWLEDGE AND REVISED: 09-24-07 Set Marked Stone. Pile of Stones Set Marked Stone UINTAH ENGINEERING & LAND SURVEYING S89'55'00"W - 2663.64' (Meas.) S89'45'W - 2641.32' (G.L.O.) 85 SOUTH 200 EAST - VERNAL, UTAH 84078 LEGEND: (NAD 83) (435) 789-1017 LATITUDE = 39'31'09.62'' (39.519339) = 90' SYMBOL SCALE LONGITUDE = $109^{42}11.55^{\circ}$ (109.703208) DATE SURVEYED: 1" = 1000'05-25-07 (NAD 27) PROPOSED WELL HEAD. PARTY REFERENCES LATITUDE = 39'31'09.75'' (39.519375) SECTION CORNERS LOCATED. D.R. K.A . C.H. G.L.O. PLAT LONGITUDE = 109'42'09.06'' (109.702517) = SECTION CORNERS RE-ESTABLISHED (NOT SET ON GROUND) WEATHER FILE HOT WIND RIVER RESOURCES CORP.

DATE DRAWN:

08-15-07

DRILLING PLAN WIND RIVER RESOURCES CORP.

NORTH HILL CREEK 14-8-15-20 (Directional)

1. Estimated Formation Tops (Depth from Surface):

Green River @ Surface

Wasatch = 2,541' (TVD) / 2,541' (MD) - Oil and/or gas anticipated at +/- 4,000' MD and below

Mesaverde Formation = 4,699' (TVD) / 4,699' (MD) - Gas

Castlegate Sandstone = 6,563' (TVD) / 6,565' (MD) - Gas

Mancos Shale = 6,813'(TVD) / 6,816' (MD) - Gas

Dakota Silt = 10,501' (TVD) / 10,517' (MD) - Gas

Dakota Sandstone = 10,648' (TVD) / 10,662' (MD) - Gas

Cedar Mountain Formation = 10,727' (TVD) / 10,743' (MD) - Gas

Morrison Formation = 10,928' (TVD) / 10,944' (MD) - Gas

Curtis Formation = 11,635' (TVD / 11,651' (MD)) - Gas

Entrada Sandstone = 11,683' (TVD) / 11,698' (MD) - Gas

Carmel = 11,951' (TVD) / 11,967' (MD)

Wingate Sandstone = 12,100' (TVD) / 12,116' (MD) – Gas

Chinle = 12,408' (TVD) / 12,116' (MD)

TD = 12,500' (TVD) / 12,516' (MD)

- 2. Wind River Resources' Minimum Specification for Pressure Control Equipment and Testing:
 - A. 5,000 psi WP Double Gate Blowout Preventer with Annular Preventer (schematic diagram attached)
 - B. BOPE will be pressure tested upon installation, whenever a seal subject to test pressure is broken or repairs are made; and at least once every 30 days. Chart recorders shall be used for all pressure tests.

Ram-type preventers and related pressure control equipment will be pressure tested to the rated working pressure of the stack assembly if a test plug is used. If a test plug is not used, the stack assembly will be tested to the rated working pressure of the stack assembly or to 70% of the minimum internal yield pressure of the casing, whichever is less.

Annular-type preventers will be pressure tested to 50% of rated working pressure.

- C. All casing strings will be pressure tested to 0.22 psi/ft or 1,500 psi, whichever is greater, prior to drilling plug after cementing. Test pressure not to exceed 70% of the internal yield pressure for the casing.
- D. Wind River Resources Corp. will comply with all requirements for well control specified in BLM Onshore Order #2.
- 3. Auxiliary Equipment:

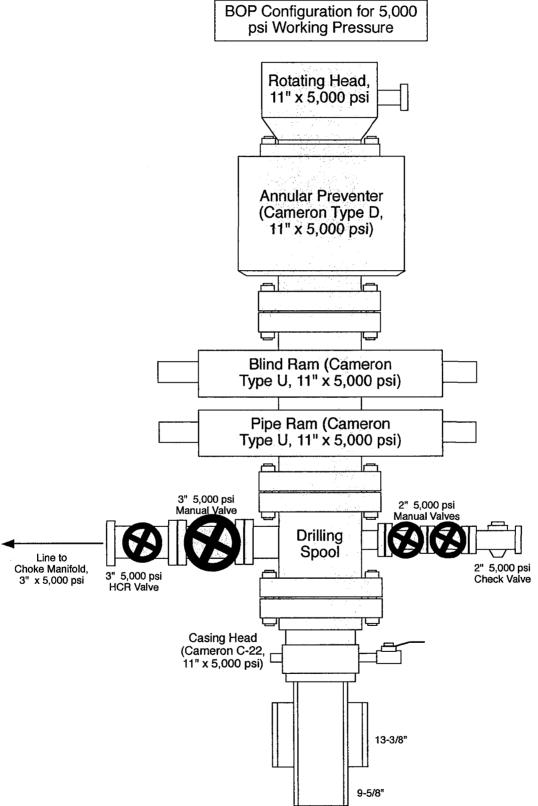
Kelly Cock - Yes

Float Sub at Bit – No

Mud Logger & Instrumentation- Yes

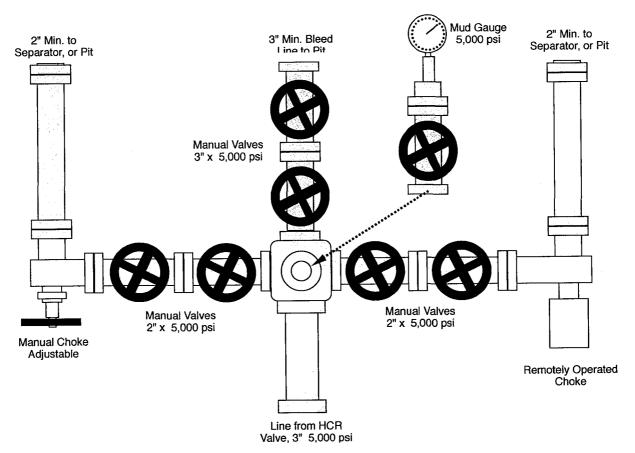
Full-opening Safety Valve on Rig Floor – Yes

Rotating Head - No



Page 2A Wind River Resources Corp. North Hill Creek 14-8-15-20 Choke Manifold Configuration for 5,000 psi Working Pressure

Page 2B Wind River Resources Corp. North Hill Creek 14-8-15-20



Testing Procedure:

- 1. BOP will be tested with a professional tester to conform to Onshore Order #2.
- 2. Blind and Pipe rams will be tested to rated working pressure, 5,000 psi.
- 3. Annular Preventer will be tested to 50% working pressure, 2,500 psi.
- 4. Casing will be tested to 0.22 psi/ft. or 1,500 psi. Not to exceed 70% of burst strength, whichever is greater.
- 5. All lines subject to well pressure will be tested to the same pressure as blind and pipe rams.
- 6. All BOPE specifications and configurations will meet Onshore Order #2 requirements.

4. Casing Program*:

| | Setting Depth | Hole Size | Casing O.D. | Grade | Weight/Ft. |
|------------|------------------|--------------|----------------|-------------------------|----------------|
| Conductor | 40' | 20" | 16" | Contractor | 0.250" wall |
| Surface | 2,700' | 12-1/4" | 9-5/8" | K-55 ST&C | 36# (new) |
| Production | 0'-12,500' | 7-7/8" | 5-1/2" N-8 | 30/HCP-110 [*] | LT&C 17# (new) |

^{*}Subject to review on the basis of actual conditions encountered. Production casing depth may be adjusted based on results.

5. Cement Program:

Conductor - 0-40'

Ready Mix to surface

Surface Casing -0-2,400'

Lead: 380 sx HiFill w/ 0.125 lbm/sk Poly-E-Flake

Tail: 350 sx Premium AG 300 (Class G) w/ 2% CaCl & 0.125lbm/sk

Poly-E-Flake

100% excess

Will top with cement down 1" pipe with 50 sx Premium Top Out Cement, if needed.

Cement Characteristics: L

Lead

Yield = 3.12 cu ft per sk Slurry Weight = 11.6 ppg

Compressive Strength = 500 psi (24 hrs

@ 80 degrees F)

Tail

Yield = 1.17 cu ft per sk Slurry Weight = 15.8 ppg

Compressive Strength = 3,000 psi (24 hrs @ 80 degrees F)

Production Casing – 0'- 12,000'

Lead: 500 sx 50:50 Pozmix w/ 5 lbm/sk Silicalite, 0.3% Diacel LWL, 20% SSA-1, 1.5% Zonesealant 2000, 0.1% Versaset, foamed to 9 ppg w/ nitrogen

<u>Tail</u>: 312sx 50:50 Pozmix w/ 5 lbm/sk Silicalite, 0.3% Diacel LWL, 20% SSA-1, 1.5% Zonesealant 2000, 0.1% Versaset, foamed to 11 ppg w/ nitrogen

Tail: 60 sx 50:50 Pozmix w/ 5 lbm/sk Silicalite, 0.3% Diacel LWL, 20% SSA-1, 1.5% Zonesealant 2000, 0.1% Versaset, not foamed

Shoe Slurry: 10 sx 50:50 Pozmix w/ 5 lbm/sk Silicalite, 0.3% Diacel LWL, 20% SSA-1, 1.5% Zonesealant 2000, 0.1% Versaset, not foamed

15% calculated excess, actual volumes to be based on caliper log and drilling experience

Cement Characteristics: Yield = 1.47 cu ft per sk

Slurry Weight (Lead-foamed =) 9.0 ppg Slurry Weight (Tail-foamed) = 11.0 ppg Slurry Weight (not foamed) = 14.3 ppg Compressive Strength = 1,125 psi (24 hrs @ 140 degrees F) = 1,500 psi (7 days @ 140 degrees F)

- 6. Testing, Logging, Coring:
 - A. Drill Stem Tests none anticipated
 - B. Electric Logs DIFL/SP/GR from TD to surface SDL/CNL/CAL w/ DFIL from TD to 2,500'
 - C. Coring Possible sidewall coring in the Dakota, Cedar Mountain, Morrison, Entrada & Wingate

7. Drilling Fluids:

Well will be drilled with a low solids non-dispersed mud. In the event of severe lost circulation, the mud may be aerated. Maximum mud weight used in Wind River's previous wells in this area was 9.4 ppg.

8. Abnormal Pressures and Hazards:

No abnormal pressures or hydrogen sulfide are anticipated based on drilling to similar depths in the Flat Rock Field, approximately 7.5 miles to the northwest. The Del-Rio/Orion 29-7A produced a 36-hour shut-in pressure of 3,100 psi and a calculated Entrada formation pore pressure of approximately 4,000 psi at 11,700'.

9. Directional Drilling

Well is to be drilled directionally due to topographic inaccessibility.

The well will be kicked off from 5,885' (MD) at an azimuth of 4.73 degrees with a build rate of 2 degrees per 100' until an inclination of 5.0 degrees is reached at approximately 6,135' (MD) in the Mesaverde. This well path will be maintained to 10,117' (MD) in the Mancos Shale. The hole will then be brought back to vertical, dropping inclination at the rate of 1 degree per 100' to a measured depth of 10,517' in the Dakota Silt. The well will then be drilled vertically to TD at a measured depth of 12,516' and a true vertical depth of 12,500'.

At TD the hole will be 175' FSL and 2,449' FWL IN SEC. 8-T15S-R20E.

Weatherford's directional drilling plan, designed on the basis of data from the 2006 North Hill Creek Extension 3D Seismic Survey, is attached.

SURFACE USE PLAN WIND RIVER RESOURCES

NORTH HILL CREEK 14-8-15-20

1. Existing Roads:

- A. Topographic Map "A" shows the vicinity of the well, including a portion of the Agency Draw-Flat Rock Mesa Road. This road is reached from Ouray, Utah, by following the Seep Ridge Road south to Buck Canyon; taking the Buck Canyon Road west to the Willow Creek Road; then north on the Willow Creek Road to Santio Crossing, which is at the junction of the Willow Creek Road and the Agency Draw Road. The Agency Draw Rd. is followed to the Flat Rock Mesa Rd. and the Flat Rock Mesa Rd. is followed to the Towave/Weaver "Y". The access road to the well departs from the Weaver Rd. on the west side of the road a total distance of 53.6 miles from Ouray.
- B. Topographic Map "B" shows the proposed new access road departing the Weaver Rd. to the west and continuing 1.4 miles to the location.
- C. The access road will be plated with shale, which will be hauled from a pit located in Section 32-T13S-R21E, leased to the operator by SITLA. The shale road surface has proved very durable and the operator will apply a similar shale surface to the location and new access road.

2. Planned Access Road:

Refer to Topographic Map "B".

- A. Length of new road will be approximately 1.4 miles and will depart from the Weaver Road in the NE/4 of Section 16-T15S-R20E.
- B. The right-of-way width is 30' (15' on either side of the centerline) with a 20-foot wide running surface.

- C. Maximum grade will be less than 2%, as the road will be nearly flat from the Weaver Road to the location.
- D. No turn-outs are planned
- E. The new road will be crowned, ditched and dipped to provide adequate drainage.
- F. Three 18" culverts will be installed to allow drainage of the relatively large flat area across the road.
- G. Surface material will be shale native to the area or hauled in from the pit in Section 32-T13S-R21E, mentioned above.
- H. No gates or cattleguards will be needed. Nor will any existing facilities be modified.
- I. The proposed road was flagged when the location was staked.
- J. The authorized officer will be contacted at least 24 hours in advance of commencement of construction of the access road and well pad.

3. Location of Existing Wells:

The nearest well is the operator's North Hill Creek 1-8-15-20, located approximately 5,700 feet northeast of the proposed surface location. Topographic map "C" shows that there are no existing wells within one mile of the proposed location.

4. Location of Existing and/or proposed Facilities:

There are no existing facilities on the proposed well pad. All proposed facilities will be contained within the proposed location site (see attached "Location Layout"). Topographic Map "D" shows the proposed route for a gas line, to be co-located in the access road right-of-way, and connecting to operator's R-O-W in Section 16.

The operator will submit information concerning proposed on and off well pad facilities once production has been established by applying for approval of subsequent operations.

- Location and Type of Water Supply:
 - A. The primary source of water for drilling and completion will be the operator's permitted water well in SWSE Sec. 3-T15S-R20E. Some produced water from existing wells may be used for drilling. Fresh water may also be taken at a point of diversion at Santio Crossing from Willow Creek in the SESE Section 29-T12S-R21E, SLB&M. This water will be taken under the terms of the Ute Oilfield Water Service's state filing.
 - B. Water from the water well will be hauled by truck on the Weaver Road. Water from Santio Crossing would be transported by truck on the Agency Draw, Flat Rock Mesa and Weaver roads.
- 6. Source of Construction Materials:
 - A. It is not anticipated that any construction materials will be needed for the drilling phase of this project. Gravel, shale or road base materials needed to upgrade access roads and well pad will be obtained from the operator's pit located on SITLA land near Chimney Rock.
 - B. The entire well site and all access roads to be upgraded or built are located on lands held in trust by the federal government for the Ute Indian Tribe.
 - C. All construction materials used in building the well pad and access road will be native material accumulated during construction. In the event that additional materials are needed, they will be obtained from the operator's existing pit on SITLA land or from private sources.
- 7. Methods for Handling Waste Disposal
 - A. Drill cuttings will be buried in the reserve pit.

Sewage waste will be contained in portable chemical toilets serviced by a commercial sanitary service.

Garbage and trash will be contained in trash baskets and hauled to a sanitary landfill.

Salt and chemicals will be kept in proper containers and salvaged for future use or disposed of at an approved facility.

- B. Drilling fluids will be contained in the reserve pit and mud tanks. To the extent possible, drilling fluids and water will be saved for future use. Unusable drilling fluids and water will be disposed of in an approved manner upon the completion of the well.
- C. The reserve pit will be lined with 12-mil plastic nylon reinforced liner installed over sufficient bedding material to cover any exposed rocks.

The pit will be fenced on three sides with 39" net wire, topped with a minimum of one stand of barbed wire. All wire will be stretched prior to attachment to the corner posts. The fourth side will be fenced when drilling activities are completed to allow drying.

8. Ancillary Facilities:

No airstrips will be built. Mobile living quarters and office facilities for supervisors, geologists, mud engineer, mud loggers, directional drillers, and air compressor personnel will be confined to the drilling location as shown on the "Location Layout" diagram. Living quarters for the drill rig crew will be located at the operator's compressor station/storage yard in Section 3.

9. Well Site Layout:

- A. Refer to attached "Typical Cross Section" diagram for cuts and fills and relation to topography
- B. Refer to "Location Layout" diagram for location of mud tanks, reserve and flare pits, pipe racks, living facilities and top soil stockpiles.
- C. Refer to "Location Layout" diagram for rig orientation and access road.

10. Plans for Restoration of the Surface:

A. Producing well location

i. Immediately upon well completion the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash and junk not required for production.

- ii. Immediately upon well completion any hydrocarbons on the reserve pit will be removed and disposed of properly.
- iii. The reserve pit and that portion of the location not needed for production facilities/operations will be re-contoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days of the date of well completion, or as soon thereafter as is practical. Before any dirt work takes place, the reserve pit must be completely dry and all cans, barrels, pipe, etc, removed. The liner will be perforated and torn prior to backfilling.
- iv. Access roads will be graded and maintained to prevent erosion and accommodate year-round traffic.
- v. All disturbed areas not needed for operations will be seeded with the mixture required by the BIA in the manner specified by the BIA.

B. Dry Hole/Abandoned Location

At such time as it is determined that the well is to be plugged and abandoned, the operator will submit a subsequent report of abandonment to the BLM and the BIA. The BLM will attach plugging conditions of approval, and the BIA will attach conditions of approval for the restoration of the surface.

11. Surface Ownership:

Access roads and location are held in trust for the Ute Indian Tribe by the United States. The operator has obtained a right-of-way from the BIA and submitted payment for damages as specified in its Exploration and Development Agreement with the Ute Indian Tribe.

12. Additional Information:

A. The operator will inform all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and will inform the assigned monitor and the authorized officer (AO) at the BIA. Within five working days the AO will inform the operator as to:

- Whether the materials appear to be eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and
- A time frame for the AO to complete an expedited review under 36 CFR 900.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes at any time to relocate activities to avoid the cost of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that required mitigation has been completed, the operator will be allowed to resume construction.

- C. Less than 10,000 pounds of any chemical(s) on EPA's <u>Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986</u>, and less than threshold planning quantity (TPQ) of any extremely hazardous substance(s), as defined in 40 CFR, would be used, produced, transported, stored, disposed of, or associated with the proposed operation.
- 13. Lessee's or Operator's Representative and Certification:

Marc T. Eckels, Vice President
Wind River Resources Corporation
1245 East Brickyard Road, Suite 110
Salt Lake City, UT 84106
Office – 801-466-4131
Fax - 801-466-4132
Cell – 435-901-4217
Home – 435-649-9295

I hereby certify that I have inspected the proposed drill site and access road; that I am familiar with the conditions which currently exist; that the statements made in this plan are true and correct to the best of my knowledge; and that the work associated with the operations proposed here will be performed by Wind River Resources Corporation, and its

Page 12 Wind River Resources Corp. North Hill Creek 14-8-15-20

contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Please be advised that Wind River Resources Corporation is considered to be the operator of the North Hill Creek 14-8-15-20 well (Ute Tribal); surface location NENW Section 17-T15S-R20E; Lease Number 20G0005577; Uintah County, Utah; and is responsible for the operations conducted upon the leased lands. Bond coverage is provided by Zions Bank SB-509795.

September 20, 2007

Date

Marc T. Eckels Vice President

The onsite inspection for this well was conducted on 9-19-07.

Participants in the onsite inspection were:

Johanna Jack, Ute Indian Tribe EMRD Joseph Chief Bear, BIA Anna Figueroa, BLM Marc Eckels, Wind River Resources Corp. Jesse Hamilton, Nations Oil Field Service



Drilling Services

Proposal

WIND RIVER RESOURCES CORP.

NORTH HILL CREEK #14-8-15-20

UINTAH COUNTY, UTAH

WELL FILE: PLAN 1

SEPTEMBER 20, 2007

Weatherford International Ltd.

2690 Oil Drive Casper, WY 82604 +1-307-265-1413 Main +1-307-235-3958 Fax www.weatherford.com

WIND RIVER RESOURCES CORP.

NORTH HILL CREEK #14-8-15-20 195' FNL, 2419' FWL SECTION 17-T15S-R20E UINTAH COUNTY, UT

SITE DETAILS

NORTH HILL CREEK #14-8-15-20 SECTION 17-T15S-R20E 195' FNL, 2419' FWL

Site Centre Latitude: 39°31'09.750N Longitude: 109°42'09.061W

Ground Level: 7243.00 Positional Uncertainty: 0.00 Convergence: 1.15

FIELD DETAILS

UINTAH COUNTY, UTAH

Geodetic System: US State Plane Coordinate System 1927 Ellipsoid: NAD27 (Clarke 1866) Zone: Utah, Central Zone Magnetic Model: bggm2006 System Datum: Mean Sea Level Local North: Grid North

| | Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target | |
|---------|----------------------------|--|--|--|--|---|---|--|--|---|-----------|------|
| | 1 2 3 4 5 6 | 0.00 5885.00 6135.00 10016.73 10516.72 12515.72 | 0.00 0.00 5.00 5.00 0.00 0.00 | 4.73 4.73 4.73 4.73 4.73 4.73 | 0.00 5885.00 6134.68 10001.64 10501.00 12500.00 | 0.00 0.00 10.86 348.03 369.75 369.75 | 0.00 0.00 0.90 28.78 30.58 30.58 | 0.00 0.00 2.00 0.00 1.00 0.00 | 0.00 0.00 4.73 0.00 180.00 4.73 | 0.00 0.00 10.90 349.21 371.02 | PBHL | |
| | | **** | | | | WELL DETA | ILS | | | | | |
| Name | | | | +N/- | s +E/-W | Northing | 3 E | asting | Latitude | : ! | Longitude | Slot |
| NORTH H | IILL C | CREEK 14-8 | -15-20 | 0.0 | 0.00 | 437082.69 | 25070 | 36.49 | 39°31′09.750N | 109°42 | :'09.061W | N/A |
| | | | | | Т | ARGET DET | AILS | | | | | |
| Name | | TVD | ±N/-S | ≠F/₌W | Northine | . Fast | | Latitu | | gitude S | hape | |

2507067.07

| 3 | ELEVATION: 7260' | |
|---|------------------|--|
| ł | ELEVATION: 7243' | |
| • | | |

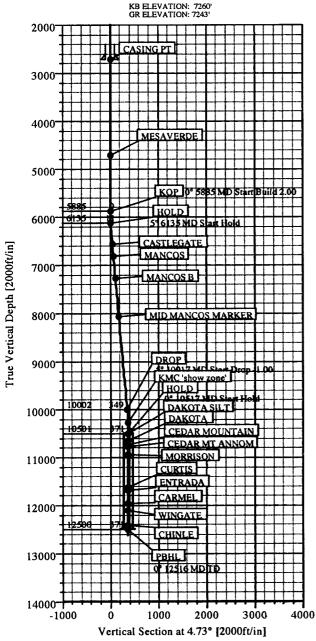
PBHL

369.75

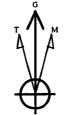
12500.00

30.58

437452.44



| | FC | RMATION | TOP DETAILS |
|--------|----------|----------|-------------------|
| No. | TVDPath | MDPath | Formation |
| 1 | 4699.00 | 4699.00 | |
| 2 | 6563.00 | 6564.95 | CASTLEGATE |
| 3 | 6813.00 | 6815.91 | MANCOS |
| 4 | 7280.00 | 7284.69 | MANCOS B |
| 4 5 | 8060.00 | 8067.67 | MID MANCOS MARKER |
| 6 | 10278.00 | 10293.67 | KMC 'show zone' |
| 7 | 10501.00 | 10516.72 | DAKOTA SILT |
| 8 | 10646.00 | 10661.72 | DAKOTA |
| 9 | 10727.00 | 10742.72 | CEDAR MOUNTAIN |
| 10 | 10765.00 | 10780.72 | CEDAR MT ANNOM |
| 11 | 10928.00 | 10943.72 | MORRISON |
| 12 | 11635.00 | 11650.72 | CURTIS |
| 13 | 11683.00 | 11698.72 | ENTRADA |
| 14 | 11951.00 | 11966.72 | CARMEL |
| 15 | 12100.00 | 12115.72 | WINGATE |
| 16 | 12408.00 | 12423.72 | CHINLE |
| (| 3 | | |



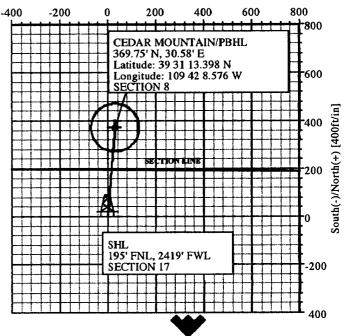
Azimuths to Grid North True North: -1.15° Magnetic North: 10.43°

39°31'13.398N 109°42'08.576W Circle (Radius: 100)

Magnetic Field Strength: 52453nT Dip Angle: 65.55° Date: 9/20/2007 Model: bggm2006

TOTAL CORRECTION TO TRUE NORTH 10.43°

West(-)/East(+) [400ft/in]



Plan: Plan #1 (NORTH HILL CREEK 14-8-15-20/1)

Created By: ROBERT SCOTT

Date: 9/20/2007

eatherford International Ltd. PLAN REPORT

Company: Wind River Resources Corp Field:

UINTAH COUNTY, UTAH NORTH HILL CREEK #14-8-15-20

Well:

Site:

Field:

NORTH HILL CREEK 14-8-15-20

Wellpath: 1

Date: 9/20/2007

Time: 13:39:45 Co-ordinate(NE) Reference:

Minimum Curvature

Page: Well: NORTH HILL CREEK 14-8-15-20

Db: Sybase

Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method: SITE 7260.0

Well (0.00N,0.00E,4.73Azi)

UINTAH COUNTY, UTAH

Map System: US State Plane Coordinate System 1927

Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level

Map Zone:

Coordinate System: Geomagnetic Model: Utah, Central Zone

Well Centre bggm2006

Site:

NORTH HILL CREEK #14-8-15-20

SECTION 17-T15S-R20E 195' FNL, 2419' FWL

Site Position:

Geographic Position Uncertainty:

Northing: Easting:

437082.69 ft 2507036.49 ft Latitude: Longitude:

39 31 9.750 N 109 42 9.061 W

North Reference: **Grid Convergence:** Grid 1.15 deg

0.00 ft

Well:

From:

NORTH HILL CREEK 14-8-15-20

0.00 ft

7243.00 ft

Well Position:

Ground Level:

0.00 ft Northing: 0.00 ft Easting:

437082.69 ft 2507036.49 ft Latitude: Longitude:

Slot Name:

39 31 9.750 N 109 42 9.061 W

Position Uncertainty: 0.00 ft

+N/-S

Wellpath: **Current Datum:**

Magnetic Data:

Field Strength:

Vertical Section:

SITE

9/20/2007

52453 nT Depth From (TVD)

0.00

ft

Height 7260.00 ft

+N/-S ft

0.00

Drilled From: Tie-on Depth: Above System Datum:

Declination: Mag Dip Angle: +E/-W

11.58 deg 65.55 deg Direction

Mean Sea Level

Surface

deg 4.73

Plan:

Principal:

Plan #1 Yes

Date Composed: Version:

9/20/2007

Tied-to:

ft

0.00

From Surface

Plan Section Information

| MD ft | Incl deg | Azim deg | TVD ft | +N/-S ft | +E/-W ft | DLS deg/100ft | Build deg/100ft | Turn deg/100ft | TFO deg | Target |
|----------|-------------|-------------|-----------|-------------|-------------|------------------|--------------------|-------------------|------------|--------|
| 0.00 | 0.00 | 4.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 5885.00 | 0.00 | 4.73 | 5885.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6135.00 | 5.00 | 4.73 | 6134.68 | 10.86 | 0.90 | 2.00 | 2.00 | 0.00 | 4.73 | |
| 10016.73 | 5.00 | 4.73 | 10001.64 | 348.03 | 28.78 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 10516.72 | 0.00 | 4.73 | 10501.00 | 369.75 | 30.58 | 1.00 | -1.00 | 0.00 | 180.00 | |
| 12515.72 | 0.00 | 4.73 | 12500.00 | 369.75 | 30.58 | 0.00 | 0.00 | 0.00 | 4.73 | PBHL |

Survey

| deg | deg | ft | N/S ft | E/W ft | VS ft | DLS deg/100ft | Build deg/100ft | Turn deg/100ft | Comment |
|------|---|---|---|---|--|--|--|--|---|
| 0.00 | 4.73 | 5885.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | KOP |
| 2.00 | 4.73 | 5984.98 | 1.74 | 0.14 | 1.75 | 2.00 | 2.00 | 0.00 | |
| 4.00 | 4.73 | 6084.84 | 6.95 | 0.58 | 6.98 | 2.00 | 2.00 | 0.00 | |
| 5.00 | 4.73 | 6134.68 | 10.86 | 0.90 | 10.90 | 2.00 | 2.00 | 0.00 | HOLD |
| 5.00 | 4.73 | 6184.49 | 15.21 | 1.26 | 15.26 | 0.00 | 0.00 | 0.00 | |
| 5.00 | 4.73 | 6284.11 | 23.89 | 1.98 | 23.97 | 0.00 | 0.00 | 0.00 | |
| 5.00 | 4.73 | 6383.73 | 32.58 | 2.69 | 32.69 | 0.00 | | | |
| 5.00 | 4.73 | 6483.35 | 41.26 | 3.41 | 41.41 | 0.00 | 0.00 | 0.00 | |
| 5.00 | 4.73 | 6563.00 | 48.21 | 3.99 | 48.37 | 0.00 | 0.00 | 0.00 | CASTLEGATE |
| 5.00 | 4.73 | 6582.97 | 49.95 | 4.13 | 50.12 | 0.00 | 0.00 | 0.00 | |
| 5.00 | 4.73 | 6682.59 | 58.64 | 4.85 | 58.84 | 0.00 | 0.00 | 0.00 | |
| 5.00 | 4.73 | 6782.21 | 67.32 | 5.57 | | | | | |
| 5.00 | 4.73 | 6813.00 | 70.01 | 5.79 | 70.25 | 0.00 | 0.00 | | MANCOS |
| 5.00 | 4.73 | 6881.83 | 76.01 | 6.29 | 76.27 | 0.00 | 0.00 | 0.00 | |
| 5.00 | 4.73 | 6981.45 | 84.69 | 7.00 | 84.98 | 0.00 | 0.00 | 0.00 | |
| | 2.00 4.00 5.00 5.00 5.00 5.00 5.00 5.00 5 | 2.00 4.73 4.00 4.73 5.00 4.73 | 2.00 4.73 5984.98 4.00 4.73 6084.84 5.00 4.73 6134.68 5.00 4.73 6184.49 5.00 4.73 6284.11 5.00 4.73 6383.73 5.00 4.73 6483.35 5.00 4.73 6563.00 5.00 4.73 6582.97 5.00 4.73 6682.59 5.00 4.73 6782.21 5.00 4.73 6813.00 5.00 4.73 6881.83 | 2.00 4.73 5984.98 1.74 4.00 4.73 6084.84 6.95 5.00 4.73 6134.68 10.86 5.00 4.73 6184.49 15.21 5.00 4.73 6284.11 23.89 5.00 4.73 6383.73 32.58 5.00 4.73 6483.35 41.26 5.00 4.73 6563.00 48.21 5.00 4.73 6582.97 49.95 5.00 4.73 6682.59 58.64 5.00 4.73 6782.21 67.32 5.00 4.73 6813.00 70.01 5.00 4.73 6881.83 76.01 | 2.00 4.73 5984.98 1.74 0.14 4.00 4.73 6084.84 6.95 0.58 5.00 4.73 6134.68 10.86 0.90 5.00 4.73 6184.49 15.21 1.26 5.00 4.73 6284.11 23.89 1.98 5.00 4.73 6383.73 32.58 2.69 5.00 4.73 6483.35 41.26 3.41 5.00 4.73 6563.00 48.21 3.99 5.00 4.73 6582.97 49.95 4.13 5.00 4.73 6682.59 58.64 4.85 5.00 4.73 6782.21 67.32 5.57 5.00 4.73 6813.00 70.01 5.79 5.00 4.73 6881.83 76.01 6.29 | 2.00 4.73 5984.98 1.74 0.14 1.75 4.00 4.73 6084.84 6.95 0.58 6.98 5.00 4.73 6134.68 10.86 0.90 10.90 5.00 4.73 6184.49 15.21 1.26 15.26 5.00 4.73 6284.11 23.89 1.98 23.97 5.00 4.73 6383.73 32.58 2.69 32.69 5.00 4.73 6483.35 41.26 3.41 41.41 5.00 4.73 6563.00 48.21 3.99 48.37 5.00 4.73 6582.97 49.95 4.13 50.12 5.00 4.73 6682.59 58.64 4.85 58.84 5.00 4.73 6782.21 67.32 5.57 67.55 5.00 4.73 6813.00 70.01 5.79 70.25 5.00 4.73 6881.83 76.01 6.29 76.27 | 2.00 4.73 5984.98 1.74 0.14 1.75 2.00 4.00 4.73 6084.84 6.95 0.58 6.98 2.00 5.00 4.73 6134.68 10.86 0.90 10.90 2.00 5.00 4.73 6184.49 15.21 1.26 15.26 0.00 5.00 4.73 6284.11 23.89 1.98 23.97 0.00 5.00 4.73 6383.73 32.58 2.69 32.69 0.00 5.00 4.73 6483.35 41.26 3.41 41.41 0.00 5.00 4.73 6563.00 48.21 3.99 48.37 0.00 5.00 4.73 6582.97 49.95 4.13 50.12 0.00 5.00 4.73 6682.59 58.64 4.85 58.84 0.00 5.00 4.73 6782.21 67.32 5.57 67.55 0.00 5.00 4.73 6813.00 70.01 5.79 70.25 0.00 5.00 4.73 6881.83 <td>2.00 4.73 5984.98 1.74 0.14 1.75 2.00 2.00 4.00 4.73 6084.84 6.95 0.58 6.98 2.00 2.00 5.00 4.73 6134.68 10.86 0.90 10.90 2.00 2.00 5.00 4.73 6184.49 15.21 1.26 15.26 0.00 0.00 5.00 4.73 6284.11 23.89 1.98 23.97 0.00 0.00 5.00 4.73 6383.73 32.58 2.69 32.69 0.00 0.00 5.00 4.73 6483.35 41.26 3.41 41.41 0.00 0.00 5.00 4.73 6563.00 48.21 3.99 48.37 0.00 0.00 5.00 4.73 6582.97 49.95 4.13 50.12 0.00 0.00 5.00 4.73 6682.59 58.64 4.85 58.84 0.00 0.00 5.00 4.73 6782.21 67.32 5.57 67.55 0.00 0.00</td> <td>2.00 4.73 5984.98 1.74 0.14 1.75 2.00 2.00 0.00 4.00 4.73 6084.84 6.95 0.58 6.98 2.00 2.00 0.00 5.00 4.73 6134.68 10.86 0.90 10.90 2.00 2.00 0.00 5.00 4.73 6184.49 15.21 1.26 15.26 0.00 0.00 0.00 5.00 4.73 6284.11 23.89 1.98 23.97 0.00 0.00 0.00 5.00 4.73 6383.73 32.58 2.69 32.69 0.00 0.00 0.00 5.00 4.73 6483.35 41.26 3.41 41.41 0.00 0.00 0.00 5.00 4.73 6563.00 48.21 3.99 48.37 0.00 0.00 0.00 5.00 4.73 6682.59 58.64 4.85 58.84 0.00 0.00 0.00 5.00 4.73</td> | 2.00 4.73 5984.98 1.74 0.14 1.75 2.00 2.00 4.00 4.73 6084.84 6.95 0.58 6.98 2.00 2.00 5.00 4.73 6134.68 10.86 0.90 10.90 2.00 2.00 5.00 4.73 6184.49 15.21 1.26 15.26 0.00 0.00 5.00 4.73 6284.11 23.89 1.98 23.97 0.00 0.00 5.00 4.73 6383.73 32.58 2.69 32.69 0.00 0.00 5.00 4.73 6483.35 41.26 3.41 41.41 0.00 0.00 5.00 4.73 6563.00 48.21 3.99 48.37 0.00 0.00 5.00 4.73 6582.97 49.95 4.13 50.12 0.00 0.00 5.00 4.73 6682.59 58.64 4.85 58.84 0.00 0.00 5.00 4.73 6782.21 67.32 5.57 67.55 0.00 0.00 | 2.00 4.73 5984.98 1.74 0.14 1.75 2.00 2.00 0.00 4.00 4.73 6084.84 6.95 0.58 6.98 2.00 2.00 0.00 5.00 4.73 6134.68 10.86 0.90 10.90 2.00 2.00 0.00 5.00 4.73 6184.49 15.21 1.26 15.26 0.00 0.00 0.00 5.00 4.73 6284.11 23.89 1.98 23.97 0.00 0.00 0.00 5.00 4.73 6383.73 32.58 2.69 32.69 0.00 0.00 0.00 5.00 4.73 6483.35 41.26 3.41 41.41 0.00 0.00 0.00 5.00 4.73 6563.00 48.21 3.99 48.37 0.00 0.00 0.00 5.00 4.73 6682.59 58.64 4.85 58.84 0.00 0.00 0.00 5.00 4.73 |

atherford International td. **PLAN REPORT**

Field: Site:

Company: Wind River Resources Corp **UINTAH COUNTY, UTAH**

NORTH HILL CREEK #14-8-15-20

Well:

NORTH HILL CREEK 14-8-15-20

Wellpath: 1

Date: 9/20/2007

Co-ordinate(NE) Reference:

Survey Calculation Method:

Time: 13:39:45

Page: Well: NORTH HILL CREEK 14-8-15-20

Vertical (TVD) Reference: Section (VS) Reference:

SITE 7260.0

Well (0.00N,0.00E,4.73Azi)

Minimum Curvature

Db: Sybase

| Survey |
|--------|
|--------|

| MD ft | Incl deg | Azim deg | TVD ft | N/S ft | E/W ft | VS ft | DLS deg/100ft | Build deg/100ft | Turn deg/100ft | Comment |
|----------------------|--------------|--------------|----------------------|------------------|----------------|------------------|------------------|--------------------|-------------------|---------------------|
| 7085.00 | 5.00 | 4.73 | 7081.07 | 93.38 | 7.72 | 93.70 | 0.00 | 0.00 | 0.00 | |
| 7185.00 | 5.00 | 4.73 | 7180.69 | 102.07 | 8.44 | 102.41 | 0.00 | 0.00 | 0.00 | |
| 7284.69 | 5.00 | 4.73 | 7280.00 | 110.72 | 9.16 | 111.10 | 0.00 | 0.00 | 0.00 | MANCOS B |
| 7285.00 | 5.00 | 4.73 | 7280.31 | 110.75 | 9.16 | 111.13 | 0.00 | 0.00 | 0.00 | |
| 7385.00 | 5.00 | 4.73 | 7379.93 | 119.44 | 9.88 | 119.85 | 0.00 | 0.00 | 0.00 | |
| 7485.00 | 5.00 | 4.73 | 7479.55 | 128.12 | 10.60 | 128.56 | 0.00 | 0.00 | 0.00 | |
| 7585.00 | 5.00 | 4.73 | 7579.17 | 136.81 | 11.31 | 137.28 | 0.00 | 0.00 | 0.00 | |
| 7685.00 | 5.00 | 4.73 | 7678.78 | 145.50 | 12.03 | 145.99 | 0.00 | 0.00 | 0.00 | |
| 7785.00 | 5.00 | 4.73 | 7778.40 | 154.18 | 12.75 | 154.71 | 0.00 | 0.00 | 0.00 | |
| 7885.00 | 5.00 | 4.73 | 7878.02 | 162.87 | 13.47 | 163.42 | 0.00 | 0.00 | 0.00 | |
| 7985.00 | 5.00 | 4.73 | 7977.64 | 171.55 | 14.19 | 172.14 | 0.00 | 0.00 | 0.00 | |
| 8067.67 | 5.00 | 4.73 | 8060.00 | 178.73 | 14.78 | 179.34 | 0.00 | 0.00 0.00 | 0.00 | MID MANICOS MADICED |
| 8085.00 | 5.00 | 4.73 | 8077.26 | 180.24 | 14.70 | 180.85 | 0.00 | 0.00 | 0.00 0.00 | MID MANCOS MARKER |
| 8185.00 | 5.00 | 4.73 | 8176.88 | 188.92 | 15.63 | 189.57 | 0.00 | | | |
| 8285.00 | 5.00 | 4.73 | 8276.50 | 197.61 | 16.34 | 198.29 | 0.00 | 0.00 0.00 | 0.00 0.00 | |
| | | | | | | | | | | |
| 8385.00 8485.00 | 5.00 5.00 | 4.73 | 8376.12 | 206.30 | 17.06 | 207.00 | 0.00 | 0.00 | 0.00 | |
| 8485.00 8585.00 | 5.00 5.00 | 4.73 | 8475.74 | 214.98 | 17.78 | 215.72 | 0.00 | 0.00 | 0.00 | |
| 8685.00 | | 4.73 | 8575.36 | 223.67 | 18.50 | 224.43 | 0.00 | 0.00 | 0.00 | |
| 8785.00 | 5.00 5.00 | 4.73 4.73 | 8674.98 8774.60 | 232.35 | 19.22 | 233.15 | 0.00 | 0.00 | 0.00 | |
| 6765.00 | 5.00 | 4.73 | 0//4.00 | 241.04 | 19.94 | 241.86 | 0.00 | 0.00 | 0.00 | |
| 8885.00 | 5.00 | 4.73 | 8874.22 | 249.73 | 20.65 | 250.58 | 0.00 | 0.00 | 0.00 | |
| 8985.00 | 5.00 | 4.73 | 8973.84 | 258.41 | 21.37 | 259.29 | 0.00 | 0.00 | 0.00 | |
| 9085.00 | 5.00 | 4.73 | 9073.46 | 267.10 | 22.09 | 268.01 | 0.00 | 0.00 | 0.00 | |
| 9185.00 | 5.00 | 4.73 | 9173.08 | 275.78 | 22.81 | 276.72 | 0.00 | 0.00 | 0.00 | |
| 9285.00 | 5.00 | 4.73 | 9272.70 | 284.47 | 23.53 | 285.44 | 0.00 | 0.00 | 0.00 | |
| 9385.00 | 5.00 | 4.73 | 9372.32 | 293.15 | 24.25 | 294.16 | 0.00 | 0.00 | 0.00 | |
| 9485.00 | 5.00 | 4.73 | 9471.94 | 301.84 | 24.96 | 302.87 | 0.00 | 0.00 | 0.00 | |
| 9585.00 | 5.00 | 4.73 | 9571.55 | 310.53 | 25.68 | 311.59 | 0.00 | 0.00 | 0.00 | |
| 9685.00 | 5.00 | 4.73 | 9671.17 | 319.21 | 26.40 | 320.30 | 0.00 | 0.00 | 0.00 | |
| 9785.00 | 5.00 | 4.73 | 9770.79 | 327.90 | 27.12 | 329.02 | 0.00 | 0.00 | 0.00 | |
| 9885.00 | 5.00 | 4.73 | 9870.41 | 336.58 | 27.84 | 337.73 | 0.00 | 0.00 | 0.00 | |
| 9985.00 | 5.00 | 4.73 | 9970.41 | 345.27 | 27.84 28.56 | 337.73 346.45 | 0.00 | 0.00 0.00 | 0.00 0.00 | |
| 10016.73 | 5.00 | 4.73 | 10001.64 | 348.03 | 28.78 | 349.21 | 0.00 | 0.00 | 0.00 | DROP |
| 10085.00 | 4.32 | 4.73 | 10069.69 | 353.55 | 29.24 | 354.76 | 1.00 | -1.00 | 0.00 | DROP |
| 10185.00 | 3.32 | 4.73 | 10169.46 | 360.19 | 29.79 | 361.42 | 1.00 | -1.00 | 0.00 | |
| 10285.00 | 2.32 | 4 72 | 10260.24 | 265.00 | | | | | | |
| 10285.00 10293.67 | 2.32 | 4.73 4.73 | 10269.34 | 365.08 | 30.19 | 366.33 | 1.00 | -1.00 | 0.00 | INFO L.L. |
| 10295.67 | 2.23 1.32 | 4.73 4.73 | 10278.00 10369.29 | 365.43 368.25 | 30.22 30.46 | 366.68 369.50 | 1.00 | -1.00 | 0.00 | KMC 'show zone' |
| 10385.00 | 0.32 | 4.73 | 10369.29 | | | | 1.00 | -1.00 | 0.00 | |
| 10465.00 | 0.32 | 4.73 4.73 | 10469.28 | 369.67 369.75 | 30.57 30.58 | 370.93 371.02 | 1.00 1.00 | -1.00 -1.00 | 0.00 00.0 | DAKOTA SILT |
| | | | | | | | | | | 2 |
| 10585.00 | 0.00 | 4.73 | 10569.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 10661.72 | 0.00 | 4.73 | 10646.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | DAKOTA |
| 10685.00 | 0.00 | 4.73 | 10669.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 10742.72 | 0.00 | 4.73 | 10727.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 10780.72 | 0.00 | 4.73 | 10765.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | CEDAR MT ANNOM |
| 10785.00 | 0.00 | 4.73 | 10769.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 10885.00 | 0.00 | 4.73 | 10869.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 10943.72 | 0.00 | 4.73 | 10928.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | MORRISON |
| 10985.00 | 0.00 | 4.73 | 10969.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11085.00 | 0.00 | 4.73 | 11069.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11185.00 | 0.00 | 4.73 | 11169.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11285.00 | 0.00 | 4.73 | 11269.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 1 1200.00 | | 4.73 | 11369.28 | 369.75 | | 371.02 | | | | |

eatherford International td. PLAN REPORT

Field:

Company: Wind River Resources Corp UINTAH COUNTY, UTAH

Site: NORTH HILL CREEK #14-8-15-20 Well: NORTH HILL CREEK 14-8-15-20

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Date: 9/20/2007

Time: 13:39:45 Well: NORTH HILL CREEK 14-8-15-20

Page:

SITE 7260.0
Well (0.00N,0.00E,4.73Azi)
Db: Sybase

Section (VS) Reference: Survey Calculation Method:

Survey

Wellpath: 1

| MD ft | Incl deg | Azim deg | TVD ft | N/S ft | E/W ft | VS ft | DLS deg/100ft | Build deg/100ft | Turn deg/100ft | Comment |
|----------|-------------|-------------|-----------|-----------|-----------|----------|------------------|--------------------|-------------------|---------|
| 11485.00 | 0.00 | 4.73 | 11469.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11585.00 | 0.00 | 4.73 | 11569.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11650.72 | 0.00 | 4.73 | 11635.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | CURTIS |
| 11685.00 | 0.00 | 4.73 | 11669.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11698.72 | 0.00 | 4.73 | 11683.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | ENTRADA |
| 11785.00 | 0.00 | 4.73 | 11769.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11885.00 | 0.00 | 4.73 | 11869.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 11966.72 | 0.00 | 4.73 | 11951.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | CARMEL |
| 11985.00 | 0.00 | 4.73 | 11969.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 12085.00 | 0.00 | 4.73 | 12069.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 12115.72 | 0.00 | 4.73 | 12100.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | WINGATE |
| 12185.00 | 0.00 | 4.73 | 12169.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 12285.00 | 0.00 | 4.73 | 12269.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 12385.00 | 0.00 | 4.73 | 12369.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 12423.72 | 0.00 | 4.73 | 12408.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | CHINLE |
| 12485.00 | 0.00 | 4.73 | 12469.28 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | |
| 12515.72 | 0.00 | 4.73 | 12500.00 | 369.75 | 30.58 | 371.02 | 0.00 | 0.00 | 0.00 | PBHL |

Annotation

| MD | TVD | |
|----------|----------|------|
| ft | ft | |
| 5885.00 | 5885.00 | KOP |
| 6135.00 | 6134.68 | HOLD |
| 10016.73 | 10001.64 | DROP |
| 10516.72 | 10501.00 | HOLD |
| 12515.72 | 0.00 | PBHL |
| | | |

Targets

| Name | Description Dip. | ı Dir. | TVD ft | +N/-S ft | +E/-W | Map Northing ft | Map Easting ft | < Latitude> Deg Min Sec | < Longitude> Deg Min Sec |
|---|---------------------|-----------|-----------|-------------|-------|-----------------------|----------------------|----------------------------|-----------------------------|
| PBHL -Circle (Radiu -Plan hit targe | | | 12500.00 | 369.75 | 30.58 | 437452.442 | 507067.07 | 39 31 13.398 N | 109 42 8.576 W |

WIND RIVER RESOURCES CORP.

NORTH HILL CREEK #14-8-15-20 LOCATED IN UINTAH COUNTY, UTAH

SECTION 17, T15S, R20E, S.L.B.&M.

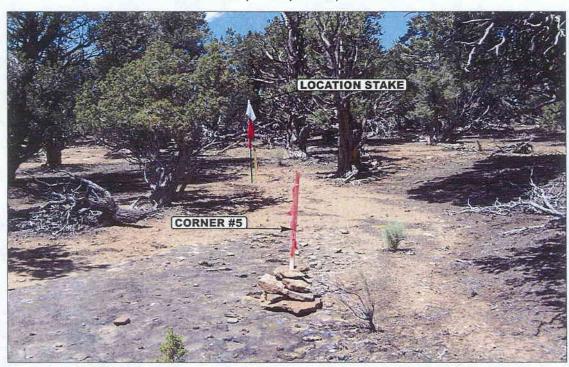


PHOTO: VIEW OF LOCATION STAKES

CAMERA ANGLE: NORTHWESTERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: NORTHWESTERLY



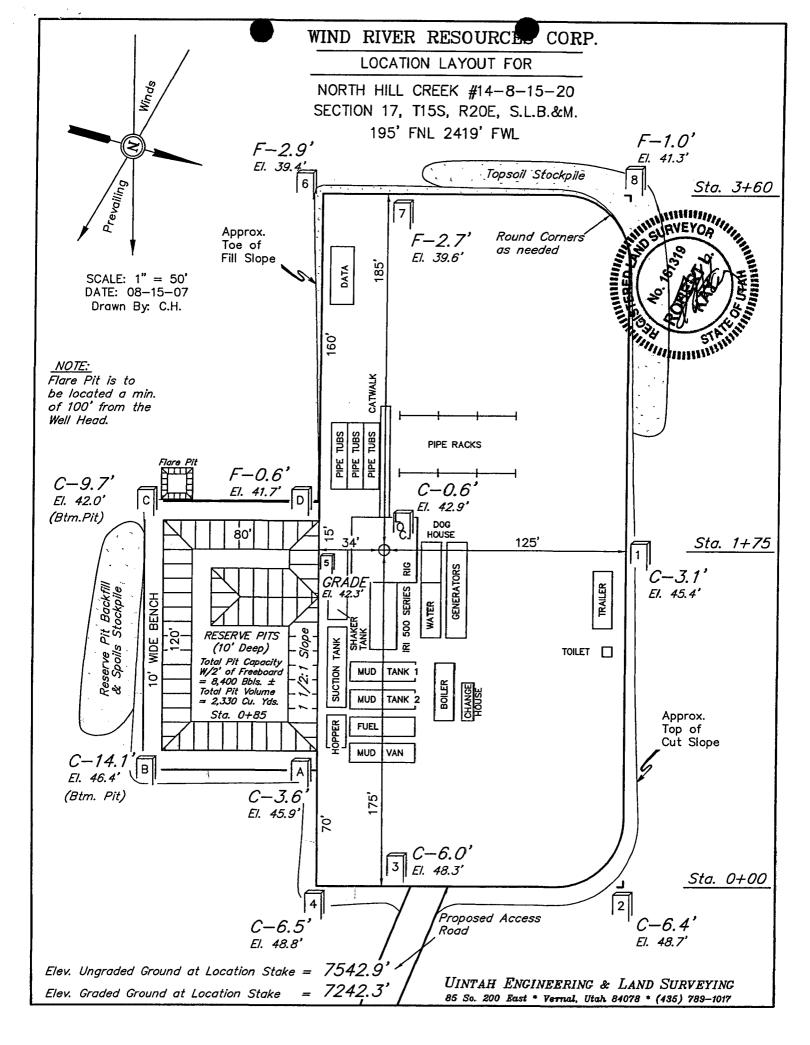
Uintah Engineering & Land Surveying S 85 South 200 East Vernal, Utah 84078 435-789-1017 uels@uelsinc.com

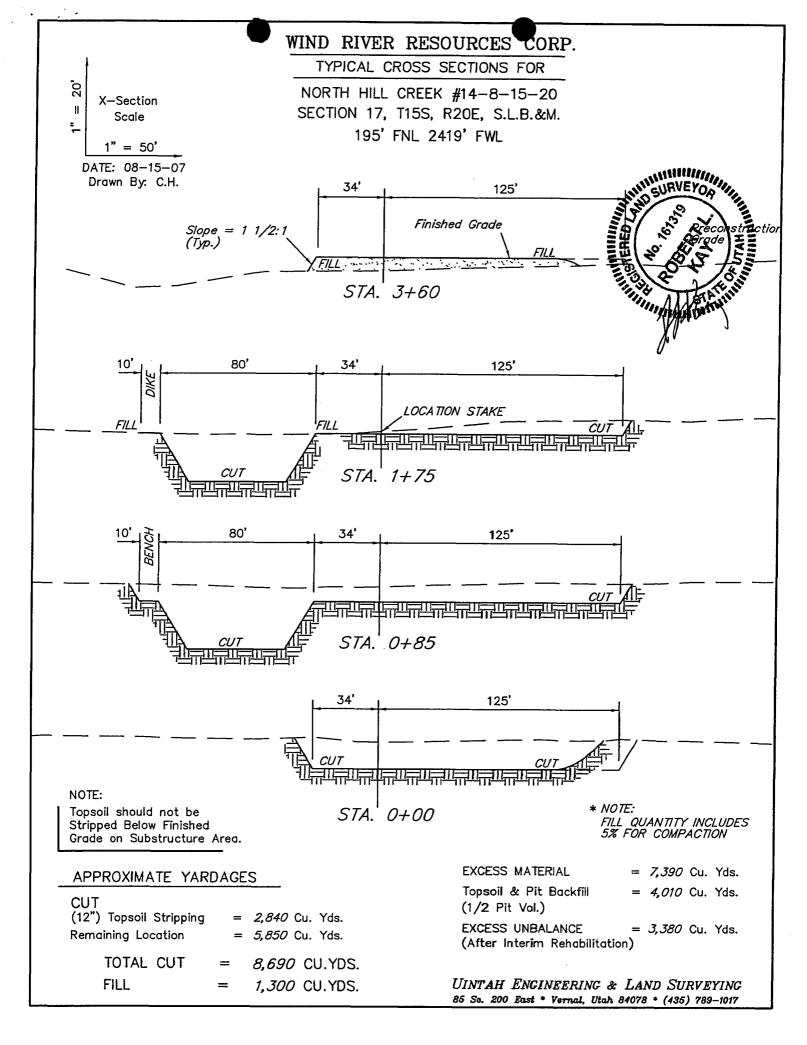
LOCATION PHOTOS

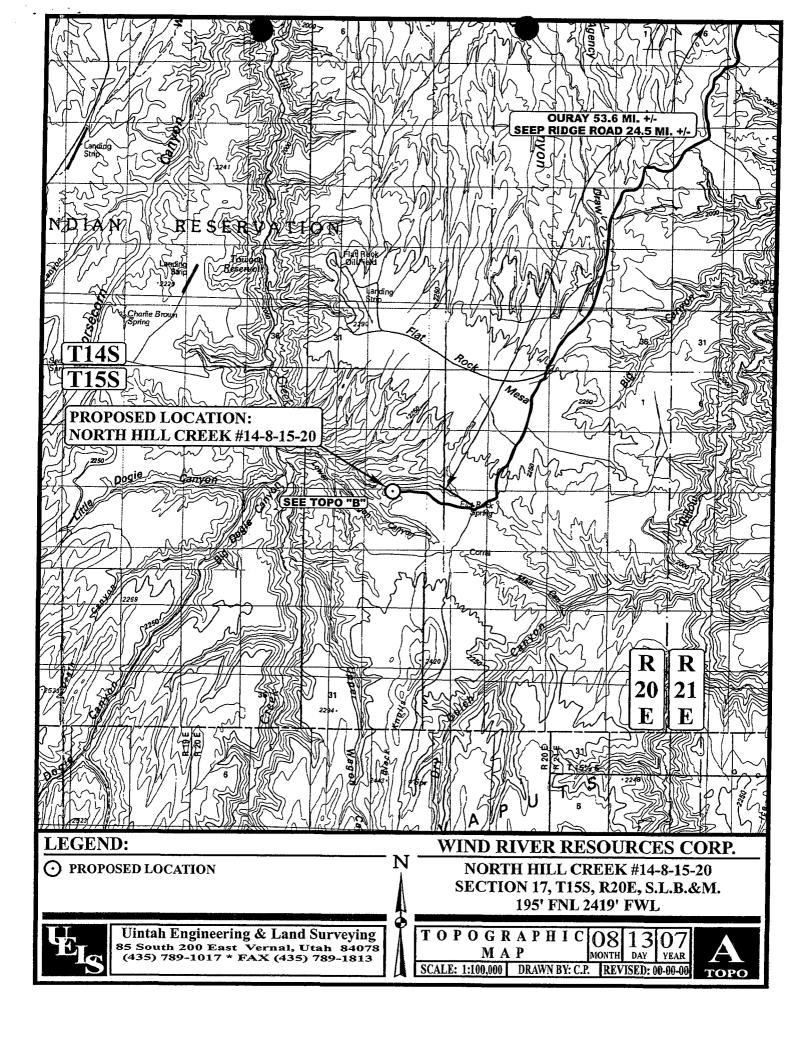
MONTH DAY YEAR

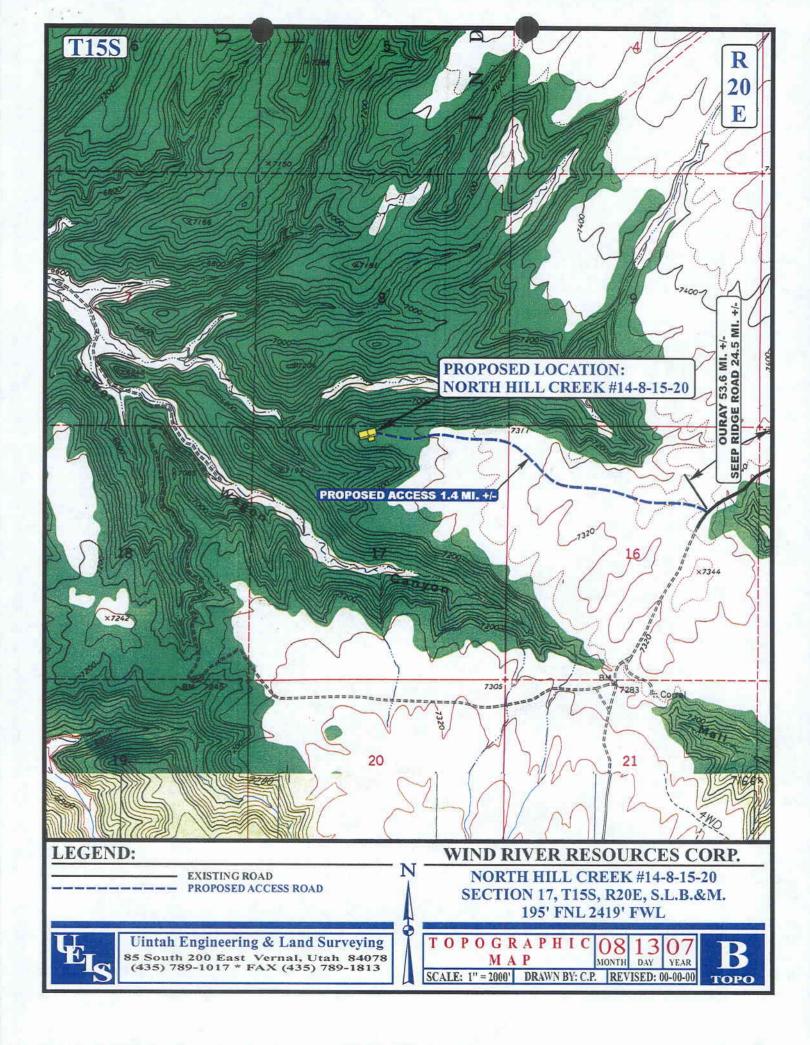
РНОТО

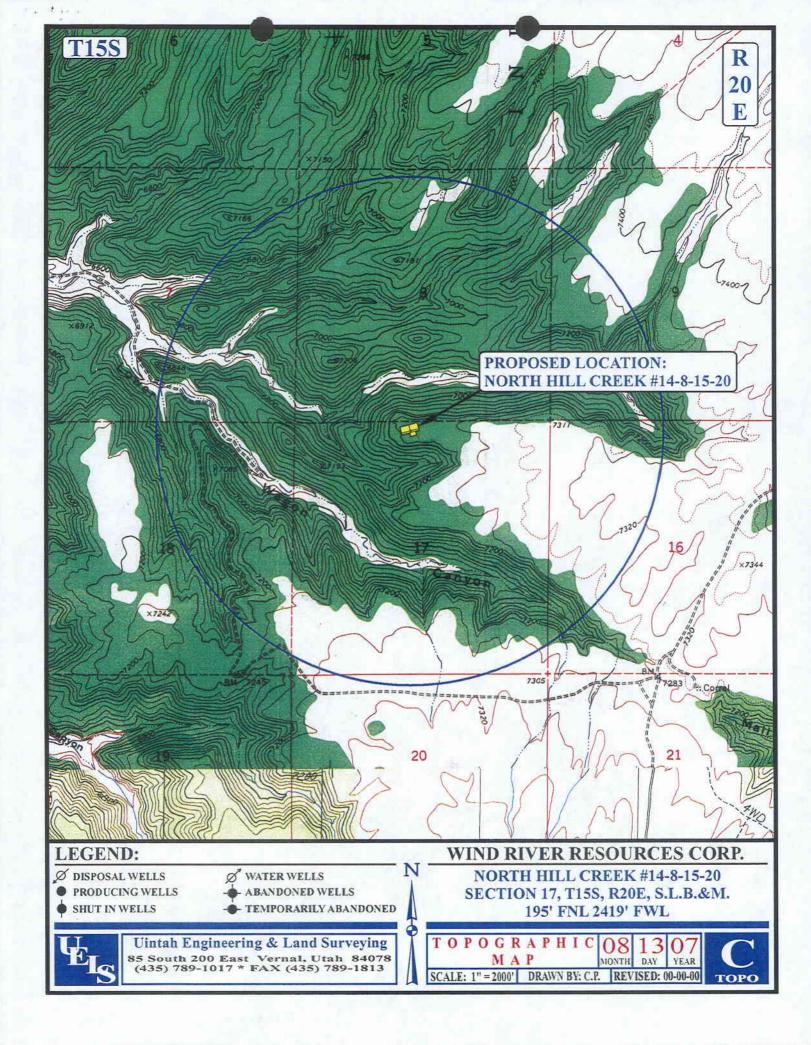
TAKEN BY: S.H. | DRAWN BY: C.P. | REVISED: 00-00-00

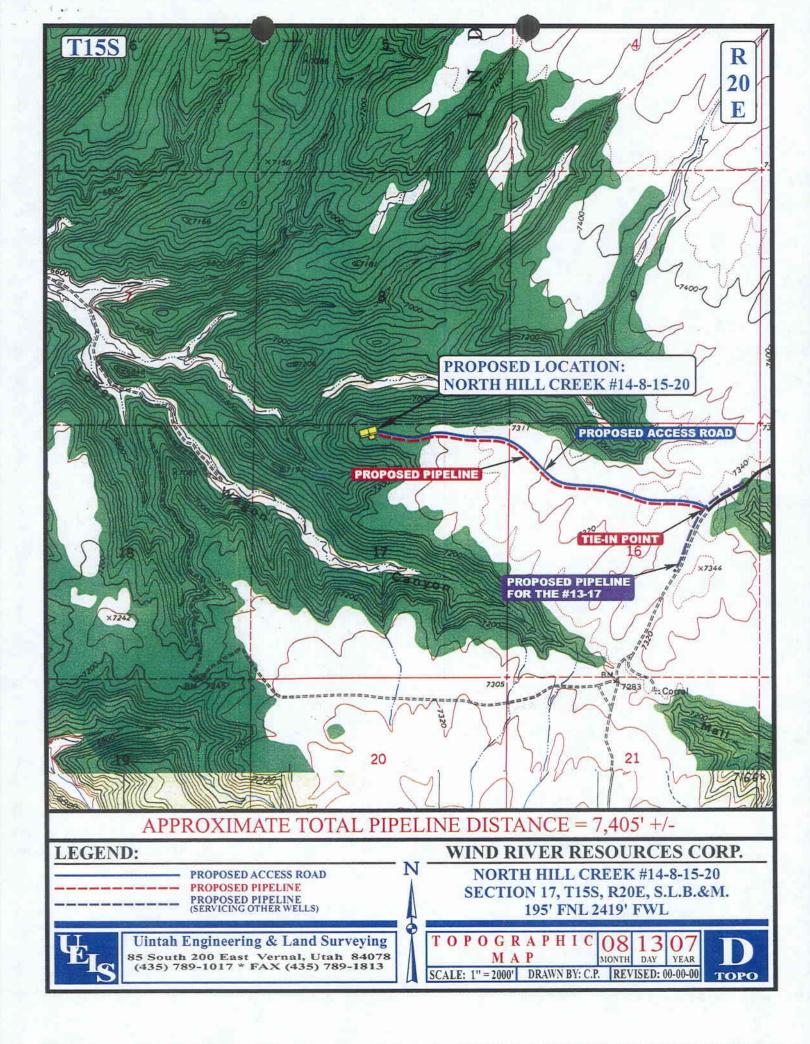


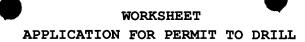




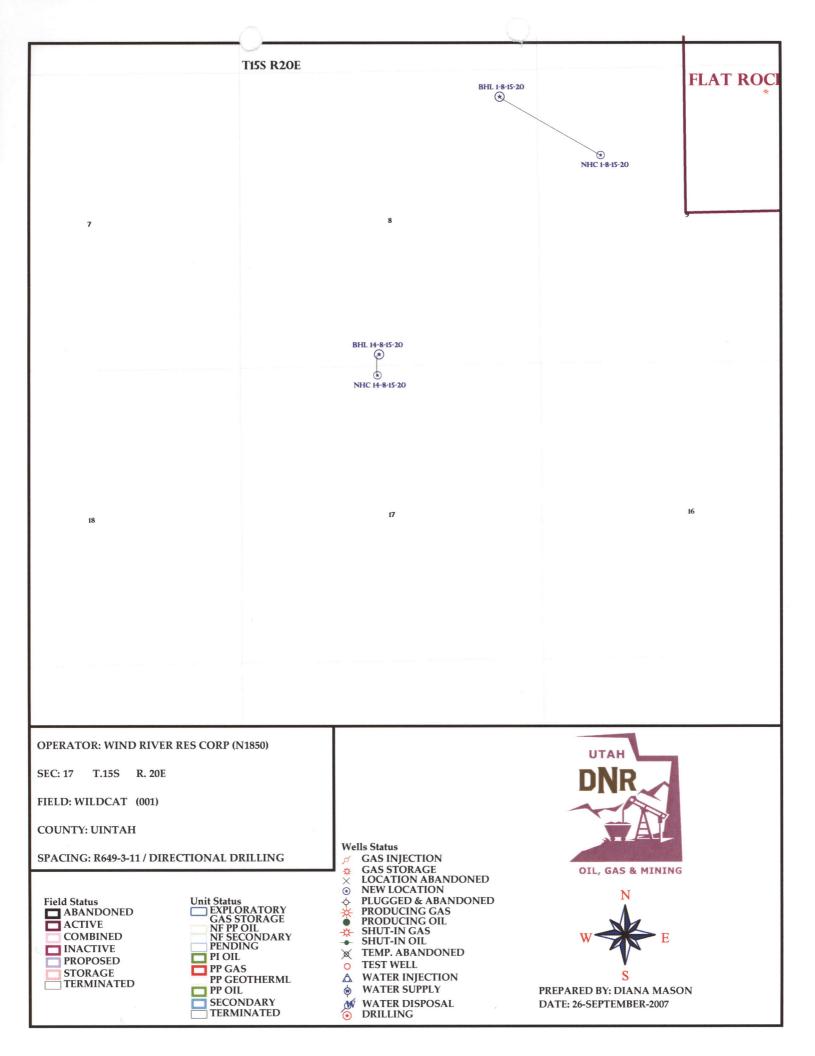








| | | | | |
|--|------------|--|---------------|---------------|
| APD RECEIVED: 09/24/2007 | | API NO. ASSIG | NED: 43-04 | 7-39646 |
| WELL NAME: NHC 14-8-15-20 | | | | |
| OPERATOR: WIND RIVER RESOURCES (N1850 | | PHONE NUMBER: | 435-466-413 | 31 |
| CONTACT: MARC ECKELS | <u>-</u> ' | | | |
| CONTACT: | _ | | | |
| PROPOSED LOCATION: | , | INSPECT LOCATN | BY: / | / |
| NENW 17 150S 200E SURFACE: 0195 FNL 2419 FWL | | Tech Review | Initials | Date |
| 80 BOTTOM: 0175 FSL 2449 FWL | | Engineering | | |
| COUNTY: UINTAH | | Geology | | |
| LATITUDE: 39.51933 LONGITUDE: -109.7025 UTM SURF EASTINGS: 611531 NORTHINGS: 437 | 5005 | Surface | | |
| FIELD NAME: WILDCAT (1 | | | | |
| LEASE TYPE: 2 - Indian LEASE NUMBER: 20G0005577 SURFACE OWNER: 2 - Indian RECEIVED AND/OR REVIEWED: | | PROPOSED FORMAT COALBED METHANE ON AND SITING: | | IGT |
| | | | | |
| Plat | R | 649-2-3. | | |
| Bond: Fed[] Ind[2] Sta[] Fee[] | Unit:_ | | | |
| (No. SB-509795) **Mathematical Description** **Potash** (Y/N) | R | 649-3-2. Gener | al | |
| Oil Shale 190-5 (B) or 190-3 or 190-13 | | iting: 460 From Qt | | Between Wells |
| Water Permit | ll . | 649-3-3. Excep | | |
| (No. UTE) | | | | |
| RDCC Review (Y/N) | II | rilling Unit | | |
| (Date:) | III | Board Cause No: Eff Date: | | |
| Fee Surf Agreement (Y/N) | H | Siting: | | |
| Min Intent to Commingle (Y/N) | V R | 649-3-11. Dire | ctional Dri | 11 |
| COMMENTS: | | | | |
| COPITENTS: | | | | |
| | | | | |
| | | | ···· <u> </u> | |
| STIPULATIONS: 1- Lecips 2 | Marcia (| | | |
| 2.1 9 | The same | | | |
| - Spanie | 711 | | | |
| | | | | |





WIND RIVER RESOURCES CORPORATION

1245 E Brickyard Road Brickyard Tower, Suite 110 Salt Lake City, Utah 84106 Telephone: (801) 466-4131 Facsimile: (801) 466-4132

Email: utah@windrivercompanies.com

RECEIVED SEP 2 7 2007

DIV. OF OIL, GAS & MINING

Marc T. Eckels, Vice President

September 21, 2007

Diana Mason, Petroleum Technician Utah Division of Oil, Gas & Mining P. O. Box 145801 Salt Lake City, UT 84114-5801

RE: Application for Directional Drilling

North Hill Creek 14-8-15-20

Surface Location: 195' FNL & 2,419' fwl (NENW) Sec. 17-T15S-R20E Bottom Hole Location: 175' FSL & 2,449' FWL (SESW) Sec. 8-T15S-R20E

Uintah County

Dear Ms. Mason:

Wind River Resources Corporation hereby requests permission to drill the North Hill Creek 14-8-15-20 directionally from the surface location in the NENW of Section 17 to a bottom hole location in the SESW of Section 8. Wind River has under lease from the Ute Indian Tribe all lands within 460' in any direction of the surface and bottom hole locations, and at every point along the proposed well path.

This is a wildcat exploratory well being drilled to test multiple anomalies identified on our 2006 North Hill Creek Extension 3D seismic survey. We anticipate potential for natural gas production from the Mesaverde, Castlegate, Mancos, Dakota, Cedar Mountain, Entrada and Wingate formations. The well must be drilled directionally to test these targets due to topographic considerations. A complete directional survey will be run in this well at the time of logging and filed with the well completion report.

Please attach this application to the APD for this well, which includes the necessary plat, topographic maps and formation tops.

Sincerely.

Vice President





MICHAEL R. STYLER
Executive Director

Division of Oil Gas and Mining

JOHN R. BAZA Division Director

September 27, 2007

Wind River Resources Corporation 1245 E Brickyard Rd., Ste. 110 Salt Lake City, UT 84106

Re:

North Hill Creek 14-8-15-20 Well, Surface Location 195' FNL, 2419' FWL, NE NW, Sec. 17, T. 15 South, R. 20 East, Bottom Location 175' FSL, 2449' FWL, SE SW, Sec. 8, T. 15 South, R. 20 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-39646.

Sincerely,

Gil Hunt

Associate Director

pab Enclosures

cc:

Uintah County Assessor

Bureau of Land Management, Vernal Office



| Operator: | Wir | <u>id River Resources C</u> | orporation | |
|--|-------------------|-----------------------------|-------------------------------------|---|
| Well Name & Number | Nor | th Hill Creek 14-8-15 | 5-20 | |
| API Number: | 43-(|)47-39646 | | _ |
| Lease: | 200 | 30005577 | | _ |
| Surface Location: NE NW Bottom Location: SE SW | Sec. 17 Sec. 8 | T. 15 South T. 15 South | R. 20 East R. 20 East | |

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

Contact Carol Daniels at (801) 538-5284

Notify the Division prior to commencing operations to plug and abandon the well.

• Contact Dustin Doucet at (801) 538-5281 (801) 733-0983 home

3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

- 4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.
- 5. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.
- 6. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

RECEIVED

Form 3160-3 (August 1999)

NOTICE OF APPROVAL

SEP 2 1 2007

FORM APPROVED OMB No. 1004-0136 Expires November 30, 2000

| UNITED STATES | | | | Expires November | | |
|---|--|--|---------------|---|-----------------|----------|
| DEPARTMENT OF THE IN | 5. Lease Serial No. | | | | | |
| BUREAU OF LAND MANAG | 20G0005577 | | | | | |
| APPLICATION FOR PERMIT TO DR | 6. If Indian, Allottee or Tribe Name Ute Indian Tribe | | | | | |
| 1a. Type of Work: DRILL REENTER | 7. If Unit or CA Agreement, Name and No. N/A | | | | | |
| 1b. Type of Well: Oil Well Gas Well Other | | Single Zone 🛭 Multip | le Zone | 8. Lease Name and Well No. North Hil. Creek 14-8-15-20 | | |
| 2. Name of Operator Wind River Resources Corporation | | | | 9. API Well No. 43.047.39 146 | | |
| 3a. Address 1245 E. Brickyard Rd., Ste. 11 | 1 | | | 10. Field and Pool, or Exploratory | | |
| Salt Lake City, UT 84106 | | 5-466-4131 | | Exploratory | | |
| 4. Location of Well (Report location clearly and in accordance with a | | | | 11. Sec., T., R., M., or Blk. | • | |
| At surface 195' FNL & 2,419' FWL (NENW) | | | | Sec. 17-T15S-R | 20E, SLE | 3&M |
| At proposed prod. zone 175' FSL & 2,449' FWL | (SESV | W) Sec. 8-T15S-R | 20E | | | |
| 14. Distance in miles and direction from nearest town or post office* Approximately 55 miles SSE of Roose | velt | | | 12. County or Parish Uintah | 13. State | |
| 15. Distance from proposed* | 16. No | o. of Acres in lease | 17. Spacin | g Unit dedicated to this well | | |
| location to nearest property or lease line, ft. 195' 640 (Also to nearest drig. unit line, if any) | | | | 40 acres | | |
| 18. Distance from proposed location* to percept well drilling completed 4,950' from | | Proposed Depth 20. BLM/ | | BIA Bond No. on file | | |
| applied for, on this lease, ft. bottom hole to bottom hole | 12. | ,500' (TVD) ,516' (MD) | | ons Bank - SB-509795 | | |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | | pproximate date work will star | t* | 23. Estimated duration | | |
| 7,243' (GL) | | on Approval | | 35 days | | |
| | | Attachments | | | | |
| The following, completed in accordance with the requirements of Onshor | re Oil and | d Gas Order No.1, shall be atta | ached to thi | s form: | | |
| 1. Well plat certified by a registered surveyor. | | 4. Bond to cover th | e operatio | ns unless covered by an exist | ing hond on fi | ile (see |
| 2. A Drilling Plan. | | Item 20 above). | · | and annual to rest of an enter | g cond on n | 10 (500 |
| A Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Office). | Lands, t | the 5. Operator certification 6. Such other site authorized office | specific infe | ormation and/or plans as ma | y be required | by the |
| 25. Signature | 11 | Name (Printed/Typed) | | Date | | , |
| Me (Eche) | ! ! | Marc E. Eckels | | | 9-20- | -07 |
| Title V Vice President | | | | | | |
| Approved by (Signature) | | Name (Printed/Typed) | | Date | • | |
| - Joseph | - | JERRY KENIZKA | | 111- | 7-2007 | |
| Title Assistant Field Manager | i | Office V | FNAL | FIELD OFFICE | | |
| Application approval does not warrant or certify the the applicant holds le operations thereon. | egal or ed | quitable title to those rights in | the subject | lease which would entitle the | applicant to co | nduct |
| Conditions of approval, if any, are attached. | | | | | | |
| Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it States any false, fictitious or fraudulent statements or representations as to | a crime o any ma | for any person knowingly and atter within its jurisdiction. | d willfully | to make to any department or | agency of the | United |
| *(Instructions on reverse) | 288 A | | | 141 4 777787 2 3 1 | OF TOTAL OPENIE | |

CONDITIONS OF APPROVAL ATTACHED RECEIVED

NOV 0 9 2007

DIV. OF OIL, GAS & MINING



API No:

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE**

VERNAL. UT 84078

(435) 781-4400



CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Wind River Resources Well No:

43-047-39646

170 South 500 East

North Hill Creek 14-8-15-20

Location: Lease No: NENW, Sec 17, T15S, R20E

2OG0005577

Agreement: N/A

| Title | Name | Office Phone Number | Cell Phone Number |
|-----------------------------------|-----------------|-----------------------------|-------------------|
| Petroleum Engineer: | Matt Baker | (435) 781-4490 | (435) 828-4470 |
| Petroleum Engineer: | Michael Lee | (435) 781-4432 | (435) 828-7875 |
| Petroleum Engineer: | James Ashley | (435) 781-4470 | (435) 828-7874 |
| Petroleum Engineer: | Ryan Angus | (435) 781-4430 | (435) 828-7368 |
| Supervisory Petroleum Technician: | Jamie Sparger | (435) 781-4502 | (435) 828-3913 |
| NRS/Enviro Scientist: | Paul Buhler | (435) 781 -44 75 | (435) 828-4029 |
| NRS/Enviro Scientist: | Karl Wright | (435) 781-4484 | (435) 828-7381 |
| NRS/Enviro Scientist: | Holly Villa | (435) 781-4404 | • |
| NRS/Enviro Scientist: | • | (435) 781-4476 | |
| NRS/Enviro Scientist: | Chuck Macdonald | (435) 781-4441 | (435) 828-7481 |
| NRS/Enviro Scientist: | Jannice Cutler | (435) 781-3400 | (435) 828-3544 |
| NRS/Enviro Scientist: | Michael Cutler | (435) 781-3401 | (435) 828-3546 |
| NRS/Enviro Scientist: | Anna Figueroa | (435) 781-3407 | (435) 828-3548 |
| NRS/Enviro Scientist: | Verlyn Pindell | (435) 781-3402 | (435) 828-3547 |
| NRS/Enviro Scientist: | Darren Williams | (435) 781-4447 | ` ' |
| NRS/Enviro Scientist: | Nathan Packer | (435) 781-3405 | (435) 828-3545 |
| | | Fax: (435) 781-3420 | |

A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

NOTIFICATION REQUIREMENTS

| Construction Activity | - | The Ute Tribe Energy & Minerals Dept. shall be notified in writing 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday. |
|--|---|---|
| Construction Completion | - | Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. |
| Spud Notice (Notify Petroleum Engineer) | - | Twenty-Four (24) hours prior to spudding the well. |
| Casing String & Cementing (Notify Supv. Petroleum Tech.) | _ | Twenty-Four (24) hours prior to running casing and cementing all casing strings. |
| BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.) | - | Twenty-Four (24) hours prior to initiating pressure tests. |
| First Production Notice (Notify Petroleum Engineer) | - | Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days. |

SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- A <u>30</u> foot corridor right-of-way shall be approved. Upon completion of each pipeline in corridor, they shall be identified and filed with the Ute Tribe.
- A qualified Archaeologist accompanied by a Tribal Technician will monitor trenching construction of pipeline.
- The Ute Tribe Energy & Minerals Department is to be notified, in writing 48 hours prior to construction of pipeline.
- Construction Notice shall be given to the department on the Ute Tribe workdays, which are Monday through Thursday. The Company understands that they may be responsible for costs incurred by the Ute Tribe after hours.
- The Company shall inform contractors to maintain construction of pipelines within the approved ROWs.
- The Company shall assure the Ute Tribe that "ALL CONTRACTORS, INCLUDING SUB-CONTRACTORS, LEASING CONTRACTORS, AND ETC." have acquired a current and valid Ute Tribal Business License and have "Access Permits" prior to construction, and will have these permits in all vehicles at all times.
- You are hereby notified that working under the "umbrella" of a company does not allow you to be in the field, and can be subject to those fines of the Ute Tribe Severance Tax Ordinance.
- Any deviation of submitted APDs and ROW applications the Companies will notify the Ute Tribe and BIA in writing and will receive written authorization of any such change with appropriate authorization.
- The Company will implement "Safety and Emergency Plan." The Company's safety director will ensure its compliance.
- All Company employees and/or authorized personnel (sub-contractors) in the field will have approved applicable APDs and/or ROW permits/authorizations on their person(s) during all phases of construction.
- All vehicular traffic, personnel movement, construction/restoration operations should be confined to the area examined and approved, and to the existing roadways and/or evaluated access routes.
- All personnel should refrain from collecting artifacts, any paleontological fossils, and from disturbing any significant cultural resources in the area.
- The personnel from the Ute Tribe Energy & Minerals Department should be notified should cultural remains from subsurface deposits be exposed or identified during construction. All construction will cease.
- All mitigative stipulations contained in the Bureau of Indian Affairs Site Specific Environmental Assessment (EA) will be strictly adhered.

Page 3 of 7 Well: North Hill Creek 14-8-15-20 11/6/2007

• Upon completion of Application for Corridor Right-Way, the company will notify the Ute Tribe Energy & Minerals Department, so that a Tribal Technician can verify Affidavit of Completion.

ADDITIONAL CONDITIONS OF APPROVAL:

- Storage tanks and facilities shall be painted juniper green.
- Tanks shall be surrounded by an earthen berm capable of containing 110% of the tank capacity.
- A secondary berm will be installed on the north, east, and west sides of the location.
- Three culverts of suitable diameter shall be installed in drainages crossed by access road.
- Trees removed from location and access road shall be pushed to the edge of cleared area.
- Cut and stock-pile trees.
- For any other additional stipulations, see concurrence letter.

DOWNHOLE CONDITIONS OF APPROVAL

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

SITE SPECIFIC DOWNHOLE CONDITIONS OF APPROVAL

- A formation integrity test shall be performed after drilling twenty feet or less below the surface casing shoe.
- The top of the production casing cement shall extend a minimum of 200 feet above the surface casing shoe.

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well. Any changes in operation must have prior approval from the BLM, Vernal Field Office Petroleum Engineers.
- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the
 daily drilling report. Components shall be operated and tested as required by Onshore Oil &
 Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be
 performed by a test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be
 reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- All shows of fresh water and minerals shall be reported and protected. A sample shall be taken
 of any water flows and a water analysis furnished the BLM, Vernal Field Office. All oil and gas
 shows shall be adequately tested for commercial possibilities, reported, and protected.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover

Page 5 of 7 Well: North Hill Creek 14-8-15-20

11/6/2007

equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM, Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM, Vernal Field Office shall be obtained and notification given before resumption of operations.

- Chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a
 weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is
 completed.
- Any change in the program shall be approved by the BLM, Vernal Field Office. "Sundry Notices and Reports on Wells" (Form BLM 3160-5) shall be filed for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.
- Emergency approval may be obtained orally, but such approval does not waive the written
 report requirement. Any additional construction, reconstruction, or alterations of facilities,
 including roads, gathering lines, batteries, etc., which will result in the disturbance of new
 ground, shall require the filing of a suitable plan pursuant to Onshore Oil & Gas Order No. 1 of
 43 CFR 3164.1 and prior approval by the BLM, Vernal Field Office.
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.
- A cement bond log (CBL) will be run from the production casing shoe to the surface casing shoe
 and shall be utilized to determine the bond quality for the production casing. Submit a field copy
 of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to UT_VN_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease shall have prior written approval from the BLM, Vernal Field Office.
- All measurement points shall be identified as point of sales or allocation for royalty determination prior to the installation of facilities.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The Field Office
 Petroleum Engineers will be provided with a date and time for the initial meter calibration and all
 future meter proving schedules. A copy of the meter calibration reports shall be submitted to
 the BLM, Vernal Field Office. All measurement facilities will conform to the API standards for
 liquid hydrocarbons and the AGA standards for natural gas measurement.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted
 to the BLM, Vernal Field Office within 30 days of installation or first production, whichever
 occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be
 adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively
 sealed in accordance with Onshore Oil & Gas Order No. 3.
- This APD is approved subject to the requirement that, should the well be successfully completed for production, the BLM, Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
 - o Operator name, address, and telephone number.
 - Well name and number.
 - o Well location (1/41/4, Sec., Twn, Rng, and P.M.).
 - Date well was placed in a producing status (date of first production for which royalty will be paid).
 - o The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
 - The Federal or Indian lease prefix and number on which the well is located;
 otherwise the non-Federal or non-Indian land category, i.e., State or private.
 - o Unit agreement and / or participating area name and number, if applicable.
 - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from Field Office Petroleum Engineers.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A shall be reported to the BLM, Vernal Field Office. Major events as defined in NTL3A, will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

Page 7 of 7 Well: North Hill Creek 14-8-15-20 11/6/2007

 Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration. Reset Form

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

| ENTITY | , , | | м | | u i |
|--------|-----|------|---|--|-----|
| | | | | | |

| _ | | | | |
|----|----|----|----|---|
| () | ne | ra | ŧΩ | r |

Wind River Resources Corporatio

Operator Account Number: N 1850

Address:

1245 E. Brickyard Rd., Suite 110

city Salt Lake City

state UT zip 84106

Phone Number: 801

801-466-4131

Well 1

| API Number | Well Name | | QQ | Sec | Twp | Rng | County |
|--------------|--------------------------|----------------------|---|----------|-----|-----|---------|
| 43-047-39646 | NHC 14-8 | 14-8-15-20 | | 17 | 158 | 20E | Uintah |
| Action Code | Current Entity Number | New Entity Number | Spud Date Entity Assignm Effective Date | | • | | |
| Α | 99999 | 16519 | 1 | 1-18-200 | 07 | / | 1/26/07 |

Comments: Spud with air rig setting conductor. Directional well with surface location in Sec. 17 and producing intervals in SESW Sec. 8.

WINGT

Well 2

| API Number Well Name | | lame | QQ | Sec | Twp | Rng | County |
|----------------------|--------------------------|----------------------|----|--------|-----|-----|-------------------------------|
| Action Code | Current Entity Number | New Entity Number | S | pud Da | te | | ly Assignment fective Date |
| comments: | | | | | | | |

Well 3

| API Number | Well | oil Name | | QQ Sec Twp | | | Rng County | |
|-------------|--------------------------|----------------------|---|-------------|-------|--------|----------------------------------|--|
| Action Code | Current Entity Number | New Entity Number | S | Spud Date | | | ity Assignment iffective Date | |
| Comments: | | | | | RECE | AED | | |
| | | | | | NOV 2 | § 2007 | | |

DIV. OF OIL, GAS & MINING

ACTION CODES:

- A Establish new entity for new well (single well only)
- **B** Add new well to existing entity (group or unit well)
- Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

Signature

Marc T. Eckels

Name (Please Print)

Vice President

11-21-2007

Title

Date

NOTICE OF LATE REPORTING DRILLING & COMPLETION INFORMATION

Utah Oil and Gas Conservation General Rule R649-3-6 states that,

Operators shall submit monthly status reports for each drilling well (including wells where drilling operations have been suspended).

Utah Oil and Gas Conservation General Rule R649-3-21 states that,

- A well is considered completed when the well has been adequately worked to be capable of producing oil or gas or when well testing as required by the division is concluded.
- ➤ Within 30 days after the completion or plugging of a well, the following shall be filed:
 - Form 8, Well Completion or Recompletion Report and Log
 - · A copy of electric and radioactivity logs, if run
 - · A copy of drillstem test reports,
 - A copy of formation water analyses, porosity, permeability or fluid saturation determinations
 - · A copy of core analyses, and lithologic logs or sample descriptions if compiled
 - A copy of directional, deviation, and/or measurement-while-drilling survey for each horizontal well

Failure to submit reports in a timely manner will result in the issuance of a Notice of Violation by the Division of Oil, Gas and Mining, and may result in the Division pursuing enforcement action as outlined in Rule R649-10, Administrative Procedures, and Section 40-6-11 of the Utah Code.

| As of the mailing of this notice, the division has no | t received the required re | eports for |
|--|----------------------------|---------------------|
| Operator: Wind River Resources Corp | Today's Date | 04/21/2008 |
| Well: | API Number: [| Orilling Commenced: |
| NHC 1-8-15-20 | 4304736909 | 05/01/2006 |
| NHC 12-33-15-20 | 4304739499 | 08/22/2007 |
| NHC 1-11-15-20 | 4304739589 | 11/05/2007 |
| NHC 14-8-15-20 15 S 20E 17 | 4304739646 | 11/18/2007 |
| List Attached | | |
| To avoid compliance action, required reports should be a second of the s | ıld be mailed within 7 bus | iness days to: |
| Utah Division of Oil, Gas and Mining | | |
| 1594 West North Temple, Suite 1210 | | |
| P.O. Box 145801 | | |
| Salt Lake City, Utah 84114-5801 | | |
| If you have questions or concerns regarding this n at _(801) 538-5260 | natter, please contact Ra | chel Medina |

c: Well File Compliance File



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB No. 1004-0135 Expires November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

| 6. | If Indian, | Allottee | or Tribe | Name |
|----|------------|----------|----------|------|
| | | | | |

5. Lease Serial No. 20G0005577

| Do not use this form for proposals to drill or to abandoned well. Use Form 3160-3 (APD) for such | | | | e-enter an Proposals. | | | 6. If Indian, Allottee or Tribe Name Ute Indian Tribe | | |
|--|--|--------------------|---|--------------------------|---|-------------------------------|---|----------------------------------|--|
| | | | | | | | | | |
| | IPLICATE - Other instr | ucti | ons on revers | se side | 9 | | t or CA | /Agreement, Name and/or No. | |
| 1. Type of Well | ~ | | | | | N/A | | 137 13 17 7 | |
| Oil Well Gas Well | Other | | | | | _1 | | md No. North Hill -8-15-20 | |
| 2. Name of Operator Wind River Resource | es Corporation | | | | | 9. API V | Vell No |). | |
| 3a. Address 1245 E. Bric | | .0 31 | b. Phone No. (incli | ude area | code) | | | 9646 | |
| Salt Lake Ci | | | 801-466-4 | 1131 | | 10. Field Expl | | ol, or Exploratory Area | |
| 4. Location of Well (Footage, Sec. 195' FNL & 2,419' | | | -R2OE (sur | face) |) | | | rish, State | |
| | FWL SESW Sec. 8-Tl | | | | | Uint | ah, | Utah | |
| 12. CHECK AP | PROPRIATE BOX(ES) T | O IN | DICATE NAT | URE O | F NOTICE, R | EPORT, C | OR O | THER DATA | |
| TYPE OF SUBMISSION | | | Γ | YPE O | FACTION | | | | |
| | Acidize | | Deepen | X. | Production (Star | t/Resume) | | Water Shut-Off | |
| Notice of Intent | Alter Casing | | Fracture Treat | | Reclamation | | | Well Integrity | |
| Subsequent Report | Casing Repair | | New Construction | | Recomplete | | | Other | |
| | Change Plans | | Plug and Abandon | | Temporarily Ab | andon | | | |
| Final Abandonment Notice 13. Describe Proposed or Complete | Convert to Injection | | | | Water Disposal | | | | |
| Notice of First Produced for May 13, system for Wind Ritto market via the of May 14. Thereby certify that the foregoin | forfinalinspection) oduction: The Nort 2008, flowing natu ver's North Hill C Comet Pipeline to | h H ral Cree | ill Creek i gas from | 14-8- the M or St | 15-20 was Jancos Shal Lation. Thi | put on le into is gas : | pro the is t | gathering ransported | |
| Name (Printed/Typed) | | | 77:41- | | - · · · · · · · · · · · · · · · · · · · | | | | |
| Marc T. Eckels | | | Title | Vice | President | | | | |
| Signature C | TElus_ | | Date | | 15, 2008 | | | | |
| | THIS SPACE | FOR | FEDERAL OR | STATE | OFFICE USE | | | | |
| Approved by | | | | Title | | | Date | | |
| Conditions of approval, if any, are certify that the applicant holds leg- which would entitle the applicant to | al or equitable title to those rigl | ce do | es not warrant or the subject lease | Office | | | | | |
| Title 18 U.S.C. Section 1001 and T States any false, fictitious or fraudul | itle 43 U.S.C. Section 1212, makent statements or representations | e it a | crime for any perso any matter within it | on knowi s jurisdic | ingly and willfully | to make to | TEC | partment or agency of the United | |

MAY 16 2008

Form 3160-5 (August 1999)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED OMB No. 1004-0135 Expires November 30, 2000

Lease Serial No.
 20G0005577

| 6. | If Ind | lian, | Allottee | or T | ribe | Name |
|----|--------|-------|----------|------|------|------|
| | IJře | Tn | dian | Tr | ib | е |

| aparidoried well. Os | e i omi 3100-5 (Al D) for 300 | r propodulo. | | Ute Ind | ian Tribe |
|--|---|---|---|---|--|
| 1. Type of Well Oil Well Gas Well Other 2. Name of Operator Wind River Resource 3a. Address 1245 E. Brickyard Salt Lake City, 4. Location of Well (Footage, Sec., T., R., Surface - 195' FNL & At Mancos Perfs - 70' 12. CHECK APPROP TYPE OF SUBMISSION Notice of Intent Subsequent Report | ATE-Other instructions of Rd., Suite 119b. Phor UT 84160 80. M., or Survey Description) 2,419' FWL NENW Sec. FSL & 2,456' FWL SEST RIATE BOX(ES) TO INDICA Acidize Deeper Alter Casing Fracture Change Plans Plug and Convert to Injection Plug Bar | ne No. (include areal 1–466–4131 17–T15S–R2 SW Sec. 8–T SLB&M TE NATURE C TYPE O TYPE O | POE PLOS REPORT OF NOTICE, REPORT OF ACTION Production (Start/Reclamation Recomplete Temporarily Abanca Water Disposal | 7. If Unit or Control N/A 8. Well Name Creek 1 9. API Well N 43-047- 10. Field and Po Explora 11. County or P Uintah, PORT, OR O' essume) | 39646 col, or Exploratory Area tory (Flat Rock) arish, State Utah THER DATA Water Shut-Off Well Integrity Other Drilling Report |
| Attach the Bond under which the work following completion of the involved optesting has been completed. Final Abandetermined that the site is ready for final North Hill Creek 14- | erations. If the operation results in a andonment Notices shall be filed only | multiple completion after all requiremen | or recompletion in a ts, including reclama | new interval, a tion, have been | ECEIVED MAY 2 2 2008 OF OIL, GAS & MINING |
| 14. I hereby certify that the foregoing is true Name (Printed/Typed) Marc T. Eckels Signature Approved by Conditions of approval, if any, are attached | THIS SPACE FOR FEDER | Date May 2 RALIOR STATE Title | President 20, 2008 OFFICE USE | Date | |
| certify that the applicant holds legal or equivalent which would entitle the applicant to conduct. Title 18 U.S.C. Section 1001 and Title 43 U States any false, fictitious or fraudulent states | itable title to those rights in the subjections thereon. S.C. Section 1212, make it a crime for | office Office | gly and willfully to r | make to any dep | artment or agency of the United |

WIND RIVER RESOURCES CORPORATION NORTH HILL CREEK 14-8-15-20 – DRILLING REPORT NARRATIVE

11-19-2007 & 11-20-2007: Move in and rig up Leon Ross air rig and air hammer drill 12-1/4" surface hole to 552'. Rig down and move out air rig.

11-23-2007 thru 11-26-2007: Move in and rig up True Rig #22 rotary tools.

11-27-2007 thru 12-2-2007: Pick up bottom hole assembly, mud up and commence drilling 12-1/4" surface hole at 552'. Drill surface hole to 2,700' with full returns. Run 67 joints 9-5/8", 36#, J-55 ST&C surface casing. Land casing at 2,6863' (KB) with guide shoe, float collar and 8 centralizers. No fill in hole. Cement surface casing (Superior) with 277 sx class A w/ 16% gel, 1% supersil-sp, 10#/sk gilsonite, 2% airout, 3%salt ¼#/sk celloflake, slurry wt. =11.0 ppg and tail with 180 sx class a w/ 2% Cal Chloride, ¼#/sk celloflake, slurry wt = 15.6 ppg. Circulated 80 bbl slurry to pit. Plug down at 9:47 pm, 12-2-2007. Wait on cement. Mud logger on location.

12-3-2007: Cut conductor and 9-5/8" casing. Weld on 11"X5M casing head. Nipple up and test BOP stack, HCR valve and choke manifold to 5,000 psi and annular BOP to 2,500 psi. Cement top dropped 94'. Top off cement job with ready mix. Install flare lines from choke manifold. Make up 7-7/8" bit and trip in hole. Wash down last 5 joints to float collar. Drill float collar, cement, and 5' of formation. Perform FIT test: 9.1 ppg mud @ 290 psi and 2,705' = 11.162 EMW. Drill ahead to 2,800'.

12-4-2007 thru 12-20-2007: Drill vertical 7-7/8" hole in formation from 2,800' to directional kick-off point at 5,885' with full returns. Trip for directional drilling tools. Trip in hole, washing last 42' to bottom. Drill and slide to establish azimuth of 4.73 degrees and inclination of 5 degrees at 6,135'. Hold well path. Strong gas show at 7,420'. 8350u gas show at 8,350' produced 12' flare against 9.5 ppg mud. Oth shows in Mancos Shale. Carried flare up to 30' continuously with mud weight in range of 9.4-9.6 ppg. Dropped inclination to return to vertical at 10,069' Trip for bit and lay down directional tools at 11,025'.

12-21-2007 thru 1-1-2008: Drilling ahead w/bit #8 from 10,339' carrying flare with 9.6 ppg mud. Reach TD at 12, 410'at 9:30 am 12-27-2007. Circulate and make short trip. Condition hole for logging. Rig up Halliburton and run logs. Based on logs and lack of shows below Mancos, decided to set production casing at 8,671'. Discussed plug back requirements with Ryan Angus (BLM) and faxed Sundry Notice for plug back cementing to BLM for approval. Trip in hole with open-ended drill pipe and circulate from 12,410' while waiting on Halliburton cementers. Rig up cementers and set plugs as follows with BLM rep on location:

Plug #1 - 300' from 12,254'-11,954' = 103 sx

Plug #2 - 400' from 11,049'-10,649' = 160 sx - WOC and check top of cement. Found at 10,696', 37' short of objective. Plug approved by BLM rep.

Plug #3 - 200' from 8,900'-8,700' = 70 sx

Trip out of hole laying down drill pipe and drill collars. Rig up casing crew and run production casing on New Years Eve. Run 192 joints of 4-1/2', 11.6# HCP-110, LT&C. Land casing at 8,671' with float collar at 8,626' and marker joints at 8,618' and 6,969'. Circulate casing and rig up Halliburton cementers. Cement casing as follows: I

Lead – 430 sx Type V HiFill w/ 16% gel, 10#/sk gilsonite, 1/8#/sk PolyFlake, 1% salt, 1% Econolite and 0.2% HR-7. Slurry weight = 11.0 ppg

Tail – 1,266 sx Class G w/ 2% gel, 3#/sk silicalite, 0.5% Halad 344, 0.2% HR-5, 0.2% Super CBL, and 0.25% Halad 413. Slurry weight = 14.3 ppg.

Good circulation throughout job. Circulated 54 bbl slurry to pit. Displaced with 134 bbl fresh water. Plug down at 15:30, 12-31-2008. Set slips with 104,000#. Nipple down BOPs. Make rough cut on 4-1/2" casing. Clean rig tanks. Release True #22.

Form 3160-5 (August 1999)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED OMB No. 1004-0135 Expires November 30, 2000

5. Lease Serial No. 20G0005577

| 6. | If Ind | ian, Allottee | or Tribe Name |
|----|--------|---------------|---------------|
| | IIte | Indian | Tribe |

| abanaonoa m | | | | ote maran | TLINE |
|--|--|---|--|--------------------------------------|--|
| SUBMIT IN TR | IPLICATE - Other instru | ctions on reve | rse side | | reement, Name and/or No. |
| 1. Type of Well | | | | N/A | |
| Oil Well Gas Well | Other | | | | North Hill |
| 2. Name of Operator | uraca Corporati | on. | | Creek 14-8 | -15-20 |
| 3a. Address 1245 E. Bric | urces Corporati kvard Rd., Suite l | 10b. Phone No. (in | clude area code) | 43-047-396 | 46 |
| Salt Lake Ci | ty, UT 84160 | 801-466 | -4131 | 10. Field and Pool, or Explorator | Exploratory Area y (Flat Rock) |
| 4. Location of Well (Footage, Sec. Surface - 195° FN At Mancos Perfs - | L & 2,419' FWL NEN 70' FSL & 2,456' | FWL SESW Sec | L5S-R20E C. 8-T15S-R20E LB&M | 11. County or Parish, Uintah, Ut | |
| 12. CHECK AP | PROPRIATE BOX(ES) TO | INDICATE NA | TURE OF NOTICE, R | EPORT, OR OTHE | R DATA |
| TYPE OF SUBMISSION | | | TYPE OF ACTION | | |
| Notice of Intent Subsequent Report | Acidize Alter Casing Casing Repair | Deepen Fracture Treat New Construction | | ☐ Wel | er Shut-Off 1 Integrity er Spud Well |
| Final Abandonment Notice | Change Plans Convert to Injection | Plug and AbandoPlug Back | n | Dandon | |
| determined that the site is ready: The North Hill Cr bucket rig drilli conductor pipe. | eek 14-8-15-20 was ng 40' of 20" cond | spudded at uctor hole a | noon on 11-18-2 nd setting and | 2007, by a Pet cementing 40' | e Martin of 14" |
| | | | | RECE | IVED |
| | | | | MAY 2 | 2 2008 |
| | | | | DIV. OF OIL, G | AS & MINING |
| 14. I hereby certify that the foregoin | g is true and correct | 1 | | | |
| Name (Printed/Typed) Marc T. Eckels | | Title | Vice President | | |
| Signature 1 | (60) | Date | May 20, 2008 | | |
| The state of the s | THIS SPACE F | OR FEDERAL OF | STATE OFFICE USE | | |
| Approved by | | | Title | Date | |
| Approved by Conditions of approval, if any, are certify that the applicant holds legs which would entitle the applicant to | l or equitable title to those rights | does not warrant or in the subject lease | Office | 1 | |
| Title 18 U.S.C. Section 1001 and Ti States any false, fictitious or fraudul | tle 43 U.S.C. Section 1212, make ent statements or representations as | it a crime for any pers s to any matter within | on knowingly and willfully ts jurisdiction. | to make to any departme | ent or agency of the United |

Approved by

.ATES UNIT. MENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0135 Expires November 30, 2000

| | DEPARTMENT OF TIME. | II4 I TYPOTO | | | |
|---|--|----------------------|--------------------------|--|---|
| | BUREAU OF LAND MANA | AGEMENT | | 5. Lease Serial | No. |
| CHAIDS | RY NOTICES AND REPO | ORTS ON WELLS | | 2.000 | 005577 |
| Do not use fi | hie form for proposals to | drill or to re-enter | r _. an | 6. If Indian, A | llottee or Tribe Name |
| abandoned w | ell. Use Form 3160-3 (AP | D) for such proposa | als. | CLIE 1 | VDIAN TRIBE |
| | | | o alda | | A/Agreement, Name and/or No. |
| SUBMIT IN TR | RIPLICATE - Other instr | actions on revers | e side | | , |
| m -ew-li | en de la composição de la | | | - A | I/A |
| Type of Well | Triós de la casa | | • | 8. Well Name | and No. |
| Oil Well & Gas Well | → Coner | | | NORTH H | in Creek 14-8-15-20 |
| Name of Operator WIPP RVER RES | and CARP | | | 9. API Well N | 0. |
| a. Address / 245 E. BRICK | YARD DO SWITS 110 | 3b. Phone No. (inclu | de area code) | 43-047 | - 38646 |
| | 1TY, UT 84106 | 801-466- | 4131 | 10. Field and Po | ool, or Exploratory Area |
| Location of Well (Footage, Sec. | T., R., M., or Survey Description | n) | | EXPLORA | |
| SURFACE: 195'FNL | 2,419' FWL (NENW) | SEC 17-7/55-R | 205 | 11. County or P | arish, State |
| 124. 178/60 1 21 | 149' FWL (SESW) 540 | 8-T155- R70 | ė | LINTAH | , UT44 . |
| • | · · · · · · · · · · · · · · · · · · · | | | | |
| 12. CHECK AF | PPROPRIATE BOX(ES) T | O INDICATE NATU | JRE OF NOTICE, I | REPORT, OR O | THER DATA |
| TYPE OF SUBMISSION | | Т | YPE OF ACTION | | |
| | ☐ Acidize | Deepen Deepen | Production (Sta | art/Resume) | Water Shut-Off |
| Notice of Intent | Alter Casing | Fracture Treat | Reclamation | | Well Integrity |
| | Casing Repair | New Construction | Recomplete | ū | Other |
| Subsequent Report | Change Plans | Plug and Abandon | Temporarily A | bandon | |
| Final Abandonment Notice | Convert to Injection | Plug Back | ☐ Water Disposal | | |
| following completion of the investing has been completed. Fi determined that the site is ready WILL RUN 8,700 | olved operations. If the operation in all Abandonment Notices shall be a shall be a small be a smal | back to | ricements, including rec | alamation, have been colored on c | rorts shall be filed within 30 days. Form 3160-4 shall be filed once completed, and the operator has RECEIVED MAY 2 2 2008 DIV. OF OIL, GAS & MINING |
| 4. I hereby certify that the foregoin Name (Printed/Typed) MARC Signature | ng is true and correct ECKELS Schol | Title | VICE PRI DECEMBER | | 7 |
| | THIS SPACE F | OR FEDERAL OR S | TATE OFFICE US | E | |

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title Accepted by the Utah Division of omoil, Gas and Mining

Federal Approval Of This Action is Necessary

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowing States any false, fictitious or fraudulent statements or representations as to any matter withinking jurisdiction. any department or agency of the United

Form 3160-5 (August 1999)

UNIT ATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB No. 1004-0135 Expires November 30, 2000

| | BUREAU OF LAND MAN | IAGEMENT | - | 5. Lease Serial No. | |
|---|--|--|--|--|---|
| SUNDI | RY NOTICES AND REP | ORTS ON WELLS | | 200000557 | |
| Do not use t | his form for proposels to rell. Use Form 3180-3 (AF | o drill or to re-ente | r an | 6. If Indian, Allostee or | |
| | | | | LETE INDIAN | TRIBA |
| SUSMIT IN TI | HPLICATE - Other Inst | ructions on revers | se skle | 7. If Unit or CA/Agreem | ent, Name and/or N |
| . Type of Well | | | | NIA | |
| Oil Well Gas Well | Other | | | 8. Well Name and No. | - |
| Name of Operator | • | | | NORTH HILL CAS | W 14-8-15 |
| | asburges Corpor | | | 9. API Well No. | |
| . Address | LT SHOY | 3b. Phone No. finch | | 43-047-3 | 9646 |
| Location of Well (Footage, Sec | Ab., SALT LAKECITY | 801-446- | 7/3/ | 10. Field and Pool, or Exp | |
| | ., T., R., M., or Survey Description | | | 11. County or Parish, State | |
| Bottom Hora: 175. | FSL & 2,449 FWL (5 | 1850) SAC. S-7 | 185-R208 | Unthus, w | |
| 12. CHECK AI | PROPRIATE BOX(ES) T | O INDICATE NATI | IRE OF NOTICE | BEDORT OF OTHER P | ATA |
| TYPE OF SUBMISSION | | | | , ICTORI, OR OTHER D | AIA |
| THE OF BUDMISSION | | | YPE OF ACTION | | |
| Notice of Intent | Acidize | Deepen | ~ | Start/Resume) | |
| | Alter Casing | Fracture Treat New Construction | Reclamation | · · · · · · · · · · · · · · · · · · · | grity |
| Subsequent Report | Casing Repair Change Plans | New Construction Plug and Abandon | Recomplete Temporarily | Other _ | |
| - b | Convert to Injection | Plug Back | Water Dispo | · * | |
| Attach the Bond under which it following completion of the flav testing has been completed. Fi determined that the site is ready | d Operation (clearly state all perticularly or recomplete horizonta ne work will be performed or proloved operations. If the operational Abandonment Notices shall be | illy, give subsurface locate wide the Bond No. on file n results in a multiple con | ons and measured and with BLM/BIA. Respection or recomplete | d true vertical depths of all pertine equired subsequent reports shall be | ent markers and zon se filed within 30 d |
| Describe Proposed or Complete If the proposal is to deepen dire Attach the Bond under which it following completion of the ihi testing has been completed. Fit determined that the site is ready | d Operation (clearly state all perticularly or recomplete horizonta to work will be performed or pro olived operations. If the operation all Abandonment Notices shall be for final inspection.) | illy, give subsurface locate wide the Bond No. on file n results in a multiple con | ons and measured and with BLM/BIA. Respection or recomplete | d true vertical depths of all pertine equired subsequent reports shall be | ent markers and zon se filed within 30 da |
| Describe Proposed or Complete If the proposal is to deepen dire Attach the Bond under which it following completion of the ihi testing has been completed. Fit determined that the site is ready | d Operation (clearly state all perticularly or recomplete horizonta to work will be performed or pro olived operations. If the operation all Abandonment Notices shall be for final inspection.) | illy, give subsurface locate wide the Bond No. on file n results in a multiple con | ons and measured and with BLM/BIA. Respection or recomplete | i true vertical depths of all pertine equired subsequent reports shall hon in a new interval, a Form 316 eclamation, have been completed | ent markers and zon se filed within 30 da |
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ATTACHMENT TO SUNDRY NOTICE – DECEMBER 28, 2007 WIND RIVER RESOURCES CORP. NORTH HILL CREEK 14-8-15-20 (UTE TRIBAL)

13. Plug Back Procedure

9-5/8" surface casing was set and cemented at 2,483'. A 7-7/8" hole was then drilled to a total depth of 12,409' in the Wingate sandstone. Open hole logging indicates that there are no commercial gas intervals below the Mancos Shale, which gave >8,000U gas shows and sustained a 3'-30' flare for two weeks from an interval at approximately 8,350'. This interval and several above it will be cased with 4-1/2", 11.6#, HCP-110, LT&C casing and completed. No detectable fluid was lost while drilling this well. The bottom hole temperature is 226 degrees F.

Permission is hereby requested for approval to plug back the well to 8,700' setting Class "G" cement plugs as follows:

Plug #1 – 1,665' long (10,639'-12,304') from 50' above the top of the Dakota Silt to 50' below the top of the Wingate (covering the bottom 50' of the Mancos Shale, the Dakota Silt, Dakota Sand, Cedar Mountain, Morrison, Summerville, Curtis, Entrada, Carmel, Kayenta and top 50' of the Wingate)

Plug #2 - 187' long (8,700'-8,900') from the 4-1/2" production casing shoe to 187' below that point in the Mancos Shale.

This will result in a cement plug covering all of the uncased interval with the exception of the 1,739' between 8,900' and 10,639'. This entire interval is dry Mancos Shale and will be left covered with 9.6 ppg drilling mud.

Because of the risks associated with pulling the drill pipe through 1,665' of cement, retarder be added to the cement to achieve a 6-hour pump time. It is proposed that if the hole remains full after the cement has been pumped, the second plug be set without requiring that the first plug be tagged.

Wind River Resources Corporation 1245 E. Brickyard Road, Suite 110 Salt Lake City, Utah 84106

Office: 801-466-4131 Fax: 801-466-4132

June 9, 2008

Ms. Rachel Medina Division of Oil, Gas, and Mining P.O Box 145801 Salt Lake City, Utah 84114-5801

Re:

Transmittal of Completion Report

North Hill Creek 14-8-15-20 SESW Sec. 14-T15S-R20E Lease Serial No. 20G0005577

Uintah County, UT

Dear Ms. Medina:

A copy of the completion report for the above-captioned well is enclosed, along with hard copies of the open-hole logs, the mud log, and the cement bond log.

Please call if you have any questions or need additional information.

Sincerely,

Richard Christiansen

VP Engineering

Cc: BLM

BIA

Ute Indian Tribe

Pering Minne

RECEIVED
JUN 1 1 2008

Form 3160-4 (4 agust 2007)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB NO. 1004-0137 Expires: July 31, 2010

5. Lease Serial No.

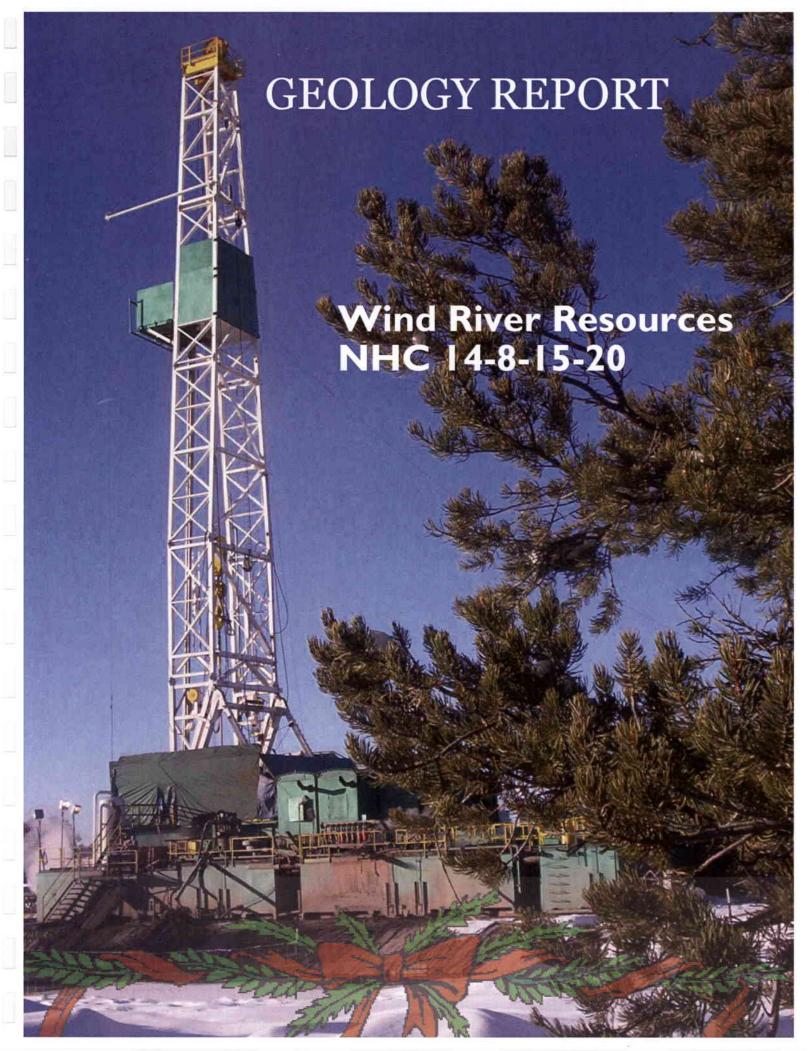
| WELL COMBIETION OF PROMINIERIOUS SESSES | . |
|---|----------|
| AVELL COMPLETION OR RECOMPLETION DEDOOT | |
| WELL COMPLETION OR RECOMPLETION REPORT | 41VII |

| lo. Truno | -£W-11 | | 10:137 | | 7 ~ | | | | | | | | | 20G | 0005 | 577 | | |
|---------------------------------------|----------------------------|---|----------------|-----------|------------------------|---------------------|----------|-------------------|-----------------------|--|------------------------|---------|-----------------------|--------------|-------------------|-----------------|----------|------------------|
| la. Type b. Type | of Well of Complet | | Oil W New V | | Gas Well Work Ov | l Dry ver Deeper | | Other Plug Bac | k 🗖 D | iff. Resvr., | , | | | 6. If Ute | Indian Indiar | , Allottee or | Tribe | Name |
| | | | Other: | | | | | | | | | | | | | A Agreeme | nt Na | ne and No. |
| NameWind R | of Operatoriver Resor | r urces C | Corpora | tion | | | | | | | | | | 8. Le | ease Na | me and We | ll No. | |
| | SS 1245 E. I | Brickvard | Road, St | | | | | | 3a. Phone | No. (inch | ude area o | ode) | | | h Hill (| Creek 14-8 | 3-15-2 | 20 |
| 4. Locati | Salt Lake | | | n clearly | and in aca | ordance with Fe | | 7 | 1801-466 | -4131 | | | | 43-0 | 47-39 | 646 | | |
| | | | | | | | | i requiren | nents)* | | | | | | ield an orator | d Pool or E | xplora | tory |
| At sur | ^{tace} 195' l | FNL & | 2,419' F | -WL NE | ENW Sec. | 17-T15S-R2 | 0E | | | | | | | | | R., M., on l | Block | and |
| At ton | nrad intary | al ramam | سماميا لمما | 10'E | NII 9 0 40 | 0.50 | | | | _ | | | | Si | urvey o | or Area Sec. | 14, T1 | 5S-R20E, SLB&M |
| | | | | | | 6' FWL SES | | ec. 1/-1 | 15S-R20E | ≣ | | | | 12. C | ounty | or Parish | 1 | 3. State |
| At total | | 2º FSL | | | | c. 8-T15S-R2 | 20E | | | | | | | Uinta | ıh | | ı | JT |
| 11/18/26 | 007 | | | 15. Date | T.D. React 2007 | hed | | 16. | Date Com | | 3/06/200 eady to Pr | | | 17. E | levatio | ns (DF, RK | B, RT | , GL)* |
| 18. Total | Depth: M | ID 12 VD 12 | 2,409' | | 19. I | Plug Back T.D.: | | | 2' | | | | e Plug Set | t: N | /ID | | | |
| 21. Туре | Electric & (| Other Me | chanical | Logs Ru | n (Submit c | opy of each) | Sa | VD 8589 | Challe | UT 2 | 2. Was v | vell co | red? | Z No | VD | Yes (Submi | t analy | eie) |
| Triple O | ombo , Soi | nic, GF | t, Calipe | er, Dire | ctional; Cl | BL, GR, CCL | 12, | 12GK | 1, ACT | 2, mud | Was I | OST ru | n? | Z No | | Yes (Submi | t repor | t) |
| | ng and Line | | l . | | ngs set in w | ell) | | 7 - 2 - | | | | | | No | | Yes (Submi | t copy) | |
| Hole Siz | _ | | Wt. (#/ | ft.) | Top (MD) | Bottom (I | MD) | | Cementer Septh | 1 | f Sks. & f Cement | | Slurry Vol (BBL) | | Ceme | ent Top* | | Amount Pulled |
| 12.25" | 9-5/8" | J-55 | 36 | Su | rface | 2683' | | | | 227 sx | Class A | | | 8 | Surfac | е | | |
| | | | | | | | | <u> </u> | | | Class A | _ | | _ _ | | | | |
| | | | | | | | | - | | 45 SX H | eadyMix | - | | _ | | | | |
| 7.875 | 4-1/2" | P-110 | 11.6 | Su | rface | 8673 | | | | 430 sx \ | V HiFill | +- | | - 2 | 540' (| CBL) | | |
| 24 7-1: |] | | | | | | | | | | Class G | ì | | | 0.0 (| OBL) | | |
| 24. Tubin Size | ng Record Deptl | Set (M | D) P | acker De | pth (MD) | Size | | Depth S | Set (MD) | Packer De | enth (MD) | | Size | | Danil | G-4 (MD) | | |
| 2.375 | 8298 | | NA | | | | | | | T HONOT DO | pur (MD) | | 5120 | + | Depin | Set (MD) | P | acker Depth (MD) |
| 23. Produc | cing Interva Formati | | | Ţ | Тор | Bottom | | | erforation I | | | Size | | 7- TX-1 | | - | | |
| A) Manco | | | | 7420' | | 7450' | | 7420-50 | | | 0.3 | | 30 | lo. Hol | | Open | Pert. | Status |
| B) Manco | os | | | 8350' | | 8380' | _ | 8350-80 | 0' | | 0.38 | 5 | 30 | | -+ | Open | • | |
| D) | | | | | | | | | | | | | | | | | | |
| 27. Acid, I | racture, Tr | eatment, | Cement | Squeeze | e, etc. | | | | | | | | | | | | | |
| 7420-50' | Depth Inte | rval | | _ | | | | | A | mount and | I Type of | Mater | ial | | | | | |
| 8350-80' | | | | | 8,000# 30 8,000# 30 | | | | | | | | | | | | | |
| | · | | | 7 1ac. 4 | 0,000# 30 | 7-30 Sanu | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | • | |
| 28. Product Date First | tion - Interv Test Date | al A Hours | Tes | t | Oil | Gas | Wat | | byo | | | | | | | | | |
| Produced | | Tested | | duction | BBL | MCF | BBI | | Oil Gravi Corr. AP | | Gas Gravity | | Production Combine | | | 1 A & B int | anzalo | s; problems with |
| 5/13/08 | 3/9/2008 | | _ - | → | | | | | | | 0.75 | | ice and h | nydrat | tes in | tubing and | l chol | e e |
| Choke Size | Tbg. Press Flwg. | ss. Csg. 24 Hr. Oil Gas Water Gas/Oil Well Status | | | | | | | | - | | - | | | | | | |
| 20 | SI 800 | 1 | | _ | | | DDL | • | Ratio | | | D | 1 | | | | | |
| 28a. Produc | | 1500 val B | | | L | 500-1500 | <u>L</u> | | 1 | | | | rod | | | | | |
| Date First Produced | Test Date | Hours | Test | | Oil | Gas | Wate | | Oil Gravi | | Gas | I | roduction | Metho | od | | | |
| 5/13/08 | 1 | Tested | - | luction | BBL | MCF | BBL | • | Corr. API | i | Gravity | | See abo | ve | | | | |
| Choke | Tbg. Press. | Csg. | 24 F | Ir. | Oil | Gas | Wate | er | Gas/Oil | | Well Statu | | | | | — DE | <u>-</u> | =1\/= |
| | Flwg. Si | Press. | Rate | | BBL | MCF | BBL | | Ratio | | wen stati | 12 | | | | nc | .0 | EIVED |
| | | | | → | | | | | | | | | | | | JU | N 1 | 1 2008 |
| *(See instr | uctions and | spaces f | or additi | ional dat | a on page 2 |) | | | I | | | | | | | | | |

| 28b. Prod | | | | | | | | | | |
|--|---------------------------|-------------------------|-------------------------------------|-----------------------------|-----------------------------|---|---------------------------------------|-------------------------------|--|---|
| Date First Produced | Test Date | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method | |
| Choke Size | Tbg. Press Flwg. | S. Csg. Press. | 24 Hr. Rate | Oil BBL | Gas MCF | Water | Gas/Oil | Well Status | 1 | |
| | SI | | - | BBL | MCF | BBL | Ratio | | | |
| 28c. Produ | | | | | | | | | | |
| Date First Produced | Test Date | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method | |
| Size | Tbg. Press Flwg. SI | . Csg. Press. | 24 Hr. Rate | Oil BBL | Gas MCF | Water BBL | Gas/Oil Ratio | Well Status | | |
| | | S (Solid 1) | sed for fuel, ver | atad ata) | | | | | | |
| Compressed | and sold int | o Comet pi | peline | иеи, екс.) | | | | | | |
| | | | (Include Aquif | • | | | | 31. Formatio | on (Log) Markers | |
| Show all including recoverie | g depui me | zones of erval teste | porosity and co | ntents ther I, time tool | eof: Cored in open, flowing | ntervals and all d ag and shut-in pr | rill-stem tests, essures and | | | |
| Forma | ation | Тор | Bottom | | Descr | iptions, Content | s, etc. | | Name | Тор |
| ireen River | | Surface | 2586' | No samp | es or mud log | (which started at 2 | 700'). No fluid loss. | Green River | | Meas. Depti |
| Vasatch . | | 2586' | 4782' | | | but no gas shows. | | Wasatch | | 2586' |
| hio Creek onglomerate | | 4782' | 4798' | Small gas | show. No fluid | Hoss. | | Mesa Verde | | 4798' |
| esa Verde | | 4798' | 6842' | Some gas | shows in lowe | r Tuscher/Farrer, N | Nesien, Upper Sego, | Mancos Shale | | 6842' |
| ancos | | 6842' | 10,691' | Large gas | show at 7420'. | From 8430' to TE |), gas sensor | Dakota Silt | | 10,691' |
| akota/Cedar I | Mtn | 10,691' | 11,030° | No definitiv | | ons on mud log. Se | | Entrada | | 11,784' |
| | | | | | | | | Wingate | | 12,258' |
| Addition | al remarks | (include p | olugging proced | ure): | | | · · · · · · · · · · · · · · · · · · · | <u> </u> | | |
| lows: (1) ug was se | the first p | lug was sx from | set with 103 8,900' to 8,70 | sx from 1 00' KB. | 1 gas produ 2,254' to 1 | iction below th | e Mancos Shale the second plug | . So the lower was set with 1 | r portion of the well was pl 60 sx from 11,049' to 10'6 | ugged with cement 349' KB; (3) the third |
| Indicate w | hich items | have been | n attached by pl | acing a ch | eck in the app | propriate boxes: | | | | |
| | | | full set req'd.) | | ∠ Geo | ologic Report | ☐ DST Repor | t 🗖 | Directional Survey | |
| | | | d cement verific | | | e Analysis | Other: | | · | |
| I hereby ce | ertity that t | he foregoi | ing and attached ard L. Christia | l informati | on is comple | | | | ds (see attached instructions)* | |
| Signat | | | eller. | | ~~~ | _ | le VP Engineer te 06/06/2008 | ing | | <u>v. </u> |
| ====================================== | Section 10 | 001 and Ti | itle 43 U.S.C. S | ection 121 | 2, make it a c | crime for any per | son knowingly and | willfully to make | e to any department or agency | of the United St. |
| ntinued on p | | nt stateme | ents or represer | tations as | to any matter | within its jurisd | iction. | | , asparament or agency | (Form 2160 A re- |

(Form 3160-4, page 2)

WIND RIVER RESOURCES CORP. T15S, R20E, S.L.B.&M. Well location, NORTH HILL CREEK #14-8-15-20, Re-Established located as shown in the NE 1/4 NW 1/4 of Using Bearing Section 17, T15S, R20E, S.L.B.&M., Uintah Tree Information. Not Set on County, Utah. BASIS OF ELEVATION Ground 2449 Bottom Hole 5285.28' (G.L.O.) BENCH MARK (59 WF) LOCATED IN THE NW 1/4 OF SECTION 10, T15S, R20E, S.L.B.&M. TAKEN FROM THE FLAT ROCK 9008 2419 MESA QUADRANGLE, UTAH, UINTAH COUNTY 7.5 MINUTE (G.L.O.) QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 7449 FEET. (Comp.) BASIS OF BEARINGS NORTH HILL CREEK #14-8-15-20 BASIS OF BEARINGS IS A G.P.S. OBSERVATION. Elev. Ungraded Ground = 7243' THE PROPOSED BOTTOM HOLE FOR THIS WELL IS LOCATED IN THE SE 1/4 SW 1/4 OF SECTION 8, T15S, R20E, S.L.B.&M. AT A DISTANCE OF 175' FNL 2449' FEL IT BEARS N13'56'39"W 371.55' FROM THE PROPOSED WELL HEAD. છ 8 Set Marked Stone CERTIFICATEAND SC THIS IS TO CERTIFY THAT THE ASONE PLAT WAS FIELD NOTES OF ACTUAL SUBVEYS MADE SUPERVISION AND THAT THE SINE BEST OF MY KNOWLEDGE AND REVISED: 09-24-07 Set Marked Stone. Pile of Stones Set Marked Stone UINTAH ENGINEERING & LAND SURVEYING S89'55'00"W - 2663.64' (Meas.) S89'45'W - 2641.32' (G.L.O.) 85 SOUTH 200 EAST - VERNAL, UTAH 84078 LEGEND: (NAD 83) (435) 789-1017 LATITUDE = 39'31'09.62'' (39.519339) = 90' SYMBOL DATE DRAWN: LONGITUDE = $109^{42}11.55^{\circ}$ (109.703208) SCALE DATE SURVEYED: 1" = 1000'08-15-07 05-25-07 (NAD 27) PROPOSED WELL HEAD. REFERENCES PARTY LATITUDE = 39'31'09.75'' (39.519375) SECTION CORNERS LOCATED. G.L.O. PLAT D.R. K.A . C.H. LONGITUDE = 109'42'09.06'' (109.702517) WEATHER SECTION CORNERS RE-ESTABLISHED (NOT SET ON GROUND) WIND RIVER RESOURCES CORP. HOT





Steamboat Energy Consultants PO BOX 881570 Steamboat Springs, Colorado 80488 Office (970) 870 9964

GEOLOGY REPORT

Wind River Resources Corporation

NHC 14-8-15-20

Surface Location:

NE NW Sec 17, T15S, R20E 2,419' FWL & 195' FNL

Botton Hole Location

SE SW Sec 8, T15S, R20E 82' FSL & 2,526' FWL Uintah County, Utah

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GEOLOGICAL REPORT

Wind River Resources Corporation NHC 14-8-15-20

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Well Resume

Operator: V

Wind River Resources Corporation

| | Well Name | NHC 14-8-15-20 | | | | | | | | | |
|-------------|--|---|---|--|--|--|--|--|--|--|--|
| z | Location (surface) | NE NW Sec 17, T15S, R20E | Bottom Hole: SE SW Sec 8, T15S, R20E | | | | | | | | |
| INFORMATION | County, State | Uintah County, Utah | | | | | | | | | |
| N. W. | Spot, (surface) | 2,419' FWL & 195' FNL | Bottom Hole 82' FSL & 2,526' FWL | | | | | | | | |
| Α̈́ | Pre-Drilled Surface Hole drilled to | 568' | API# 43-047-39646 | | | | | | | | |
| WELL | Spud Date | 11/26/07 Time: | 11:00 PM Drlg Started 568' | | | | | | | | |
| ₹ | Total Death | Driller 12,410' | Logger 12,409' | | | | | | | | |
| | Completion Date (TD) | Thursday, December 27, 2007 | Time: 9:20 AM | | | | | | | | |
| | Hole Size | 12 1/4" to 2,700' | 7 7/8" to TD | | | | | | | | |
| HOLE | Casing | 9 5/8" , 36#, J55 @ 2,685' | 4 1/2" set @ 8,671' | | | | | | | | |
| Ľ | Cement | 277 sks class A, 180 sks Class A, 2% CaCl - C2, 1/4#/sk super flake | RUN 192 JTS 4.4" 11.6#, N-80 HCP, LT&C CASING = 8,674', CMT W/ 430 SX LEAD, 1,266 SX | | | | | | | | |
| \geq | GL | 7,243' | | | | | | | | | |
| ELEV | КВ | 7,259' | | | | | | | | | |
| | Exploration Manager | Marc Eckels | | | | | | | | | |
| Ä | Drilling Foreman | Dempsey Day, Kenneth Niel | son | | | | | | | | |
| PERSONNEL | Wellsite Geologist | Gregg Smith, Steamboat En | ergy Consultants | | | | | | | | |
| Ë | Directional Drillers | Ryan Birtch, Bill Wright | | | | | | | | | |
| | Tool Pusher | Tom Alber, Billy Hatfield | | | | | | | | | |
| _ | | <u> </u> | | | | | | | | | |
| F | Drilling Company | True Drilling LLC | | | | | | | | | |
| | Drilling Company Rig # | True Drilling LLC 22 | | | | | | | | | |
| | Rig # | | | | | | | | | | |
| | | 22 | Mud Up @ 2,700' | | | | | | | | |
| ORS | Rig # Mud Company | 22 Mustang Drilling Fluids | Mud Up @ 2,700' | | | | | | | | |
| TRACTORS | Rig # Mud Company Mud Type | 22 Mustang Drilling Fluids Water LSND | Mud Up @ 2,700' | | | | | | | | |
| CONTRACTORS | Rig # Mud Company Mud Type Mud Engineer | 22 Mustang Drilling Fluids Water LSND Dan Kastel | Mud Up @ 2,700' | | | | | | | | |
| CONTRACTORS | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company Petrophysical Logging Company | 22 Mustang Drilling Fluids Water LSND Dan Kastel None | Mud Up @ 2,700' | | | | | | | | |
| CONTRACTORS | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company | 22 Mustang Drilling Fluids Water LSND Dan Kastel None Halliburton (Rock Springs) D Schwarzenberger | Comp True Resistivity, BHC Sonic, | | | | | | | | |
| CONTRACTORS | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company Petrophysical Logging Company Logging Engineer: | Mustang Drilling Fluids Water LSND Dan Kastel None Halliburton (Rock Springs) D Schwarzenberger Spectral Density/DSN, Array | Comp True Resistivity, BHC Sonic, | | | | | | | | |
| CONTRACTORS | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company Petrophysical Logging Company Logging Engineer: Log Suite | Mustang Drilling Fluids Water LSND Dan Kastel None Halliburton (Rock Springs) D Schwarzenberger Spectral Density/DSN, Array Magnetometer, all TD - Sfc C | Comp True Resistivity, BHC Sonic, | | | | | | | | |
| | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company Petrophysical Logging Company Logging Engineer: Log Suite Directional Drilling/MWD | Mustang Drilling Fluids Water LSND Dan Kastel None Halliburton (Rock Springs) D Schwarzenberger Spectral Density/DSN, Array Magnetometer, all TD - Sfc C | Comp True Resistivity, BHC Sonic, | | | | | | | | |
| | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company Petrophysical Logging Company Logging Engineer: Log Suite Directional Drilling/MWD Drilling Days | Mustang Drilling Fluids Water LSND Dan Kastel None Halliburton (Rock Springs) D Schwarzenberger Spectral Density/DSN, Array Magnetometer, all TD - Sfc C | Comp True Resistivity, BHC Sonic, | | | | | | | | |
| SUMMARY | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company Petrophysical Logging Company Logging Engineer: Log Suite Directional Drilling/MWD Drilling Days Rotating Hours | Mustang Drilling Fluids Water LSND Dan Kastel None Halliburton (Rock Springs) D Schwarzenberger Spectral Density/DSN, Array Magnetometer, all TD - Sfc C Weatherford 27 541.50 | Comp True Resistivity, BHC Sonic, Csg, GR to surface | | | | | | | | |
| | Rig # Mud Company Mud Type Mud Engineer Mud Logging Company Petrophysical Logging Company Logging Engineer: Log Suite Directional Drilling/MWD Drilling Days Rotating Hours Bottom Hole Formation | Mustang Drilling Fluids Water LSND Dan Kastel None Halliburton (Rock Springs) D Schwarzenberger Spectral Density/DSN, Array Magnetometer, all TD - Sfc C Weatherford 27 541.50 Wingate | Comp True Resistivity, BHC Sonic, Csg, GR to surface Mancos 'B' | | | | | | | | |

Surface Location - NE NW Sec 17, T15S, R20E

| | | | Bottom Hole Loc- | SE SW Sec 8, T | 15S, R20E | |
|------------|-----------------|---------------------------|------------------|---------------------|-----------|-------------------|
| و ا | | | K | (B | 7,259' | ities |
| Period | | Formation | | LOG TOPS | | nform |
| 4 | L | | Measured Depth | True Vertical Depth | Datum | Unconformities |
| يخ | Gr | een River | Surface | _ | - | |
| TERTIARY | Wa | asatch | 2,586' | 2,586' | (+4,673') | |
| ٦ | On | nio Creek Conglomerate | 4,782' | 4,782' | (+2,477') | -кт- |
| | | Tuscher/Farrer ? | 4,798' | 4,798' | (+2,461') | |
| | dno | Neslen | 5,942' | 5,939' | (+1,320') | |
| | Mesaverde Group | Upper Sego | 6,468' | 6,464' | (+795') | |
| | saver | Lower Sego | 6,572' | 6,567' | (+692') | |
| | ğ | Buck Tongue | 6,607' | 6,602' | (+657') | |
| Sn | | Castlegate | 6,640' | 6,635' | (+624') | |
| CRETACEOUS | | Mancos Shale | 6,842' | 6,836' | (+423') | |
| RETA | Mancos | Mancos B (Prairie Canyon) | 7,402' | 7,394' | (-135') | |
| ច | Mar | Lower Blue Gate | 8,185' | 8,183' | (-924') | |
| | | Mancos "Show Zone" | 10,458' | 10,442' | (-3,183') | |
| | ٩ | Dakota Silt | 10,691' | 10,674' | (-3,415') | |
| | Dakota Group | Dakota | 10,790' | 10,773' | (-3,514') | -K1- |
| | akota | Cedar Mountain | 10,904' | 10,887' | (-3,628') | |
| | _ | Buckhorn Conglomerate | 11,021' | 11,004' | (-3,745') | |
|) | son | Brushy Basin | 11,030' | 11,013' | (-3,754') | -K0- |
| | Morri | Salt Wash | 11,369' | 11,351' | (-4,092') | ا |
| \langle | Sui | mmerville | 11,670' | 11,652' | (-4,393') | -J5- |
| SSIC | Cui | rtis | 11,704' | 11,685' | (-4,426') | -J4- |
| JURASSIC | Mo | ab Tongue | 11,770' | 11,751' | (-4,492') | -J3- |
| <u>ק</u> | Ent | rada, Slick Rock Member | 11,784' | 11,765' | (-4,506') | |
| | Cal | rmel | 12,062' | 12,043' | (-4,784') | -J2- |
| | | venta | 12,184' | 12,165' | (-4,906') | |
| | | ngate | 12,258' | 12,239' | (-4,980') | $\lfloor \rfloor$ |
| TOTAL | DEF | PTH | 12,409' | 12,390' | (-5,131') | |

Summary and Conclusions

SUMMARY

Wind River Resources Corporation drilled the NHC 14-8-15-20 to a total depth of 12,410' between November 26, 2007 and December 27, 2007. The hole was drilled directionally in order to achieve a bottom hole location to the southwest (SE SW Sec. 8), beneath Hill Creek Canyon, along an planned azimuth of 4.73 degrees. Drilling began at 568' out from under a pre-drilled 12 $\frac{1}{2}$ " surface hole. A maximum inclination of 6.4 degrees was achieved at 8300' then straightened out to ~ 2 degrees above the Dakota Silt and maintained at that inclination to total depth.

OPERATIONS

Drilling operations were conducted by True Drilling LLC, Rig 22. There were no significant operational problems or delays. The gas separator was engaged due to a gas increase starting at 8,358', MD, resulting in a 3 to 10 foot flare that was intermittently present, while drilling, to total depth.

OBJECTIVES

Based on three D seismic interpretation the NHC 14-8-15-29 was drilled as a natural gas exploratory well located on Flat Rock Mesa as an North Hill Creek extension well. Primary objectives were for gas reservoir development and include the Cedar Mountain and Entrada Formations. Secondary objectives included the Mancos Shale, and Wingate Sandstone.

Sample evaluation started at 2,700'. Sample quality was generally fair to good with notable exceptions in the Entrada Fm which was dominated by Morrison Shale cavings. There were a total of 35 separate gas shows recorded using MSI gas detection equipment through the Mancos formation at a depth of 8,358'. A gas increase of 8,350 units, apparently from a drilling break at 8,356' to 8,386', resulted in a continuous elevated background gas that effectively masked all subsequent formation gas increases that may have been present from that point throughout the remainder of the hole.

DISCUSSION OF GAS AND OIL SHOWS

Wasatch Fm. (Ohio Creek Conglomerate)

Minor gas (56 units) associated with the basal Wasatch was recorded at 4,778' The Ohio Creek Conglomerate was well developed and easily discernable by the distinct increase in varicolored chert.

Mesaverde Formation

Twenty one separate gas increases were recorded through the Mesaverde Fm. Most notable at 6352'- a 3,277 unit increase from Sandstone associated with Coal. Described as - SANDSTONE; white to light gray, friable to firm fine to lower fine grained, black to brown mineral inclusions, well sorted and consolidated, occasionally black very carbonaceous stringers and partings, no visible porosity, no fluorescence stain odor or cut. Loose COAL, black vitreous, brittle. All gas shows were associated to some degree with coal or carbonaceous material. Minor gas associated with the Lower Sego of 185

Summary and Conclusions

units (figure 1) originated from tight fine grained sand. All gas increases recorded in the Mesaverde must be evaluated in association with e-logs to determine their respective productive potential.

Castlegate

Several moderate gas shows and oil shows were present in the Castlegate originating from tight sandstone and carbonaceous shale, (Figure 2). A general description of the upper sandstone follows; SANDSTONE; white to very pale brown, firm to friable, fine to very fine grained, subangular to sub rounded, well sorted and consolidated, spotty siliceous matrix, predominantly tight with trace poor to fair intergranular porosity, occasional moderate to bright yellow gold fluorescence, spotty to even light brown stain, fair streaming cut. Logs indicate poor, thin and moderately tight reservoir development.

Mancos Shale

Three distinct and potentially productive zones were present in the Mancos Formation. 1) A thin silty zone at 7,020' with a gas increase of 1,545 units, 2) 7,425' (Mancos B) a potentially productive fractured zone associated with a thin silty bench @ 7,436', (figure 4). Clearly discernable quartz and siderite crystal growths may represent fracture fill, and 3) a 30' drilling break at the top of the Lower Blue Gate Member at 8,356' to 8'386' associated with 8,350 unit gas increase that would not go away even though circulated through the gas buster and maintaining a mud weight over 9.6 pounds. Samples from this interval were not clearly interpretable consisting mostly of regional Mancos Shale and minor siltstone. Trace Inoceramous fragments were also noted in this zone. E-Logs likewise did not indicate any significant lithological change. The persistence of the gas initially encountered at 8,358' elevating the background gas and sustaining a flare throughout drilling is unprecedented in this writers experience and may represent very good productive potential.

Dakota Group

The Dakota Silt was actually more of a siltstone than sandstone with no reservoir development. Cuttings samples indicate several fair sandstone developments in the Dakota and Cedar Mountain Formations, (figures 5,6,7) E-Log examination and evaluation indicates these zones to be quite thin, relatively tight and of limited productive potential.

Entrada

Cuttings samples from the Entrada Sand interval were quite poor, a condition most likely resulting from the use of PDC bits. The superjacent Curtis Sand (figure 8) was helpful in determining the Entrada top. There was no evident reservoir development indicated by samples, gas, or on E-Logs.

Wingate

Low resistivity in the well developed sandstone present in the upper Wingate formation suggests this zone to be water productive and non economical as far as gas production is concerned.

Summary and Conclusions

Conclusions

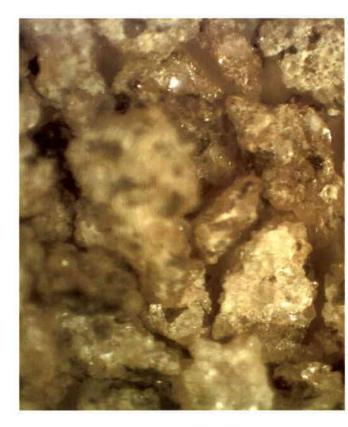
After evaluation of E-Logs the productive potential of the Dakota Group, Entrada and Wingate were determined to be minimal. Four and one half inch production casing was set at 8,671' to further evaluate the gas productive potential of the Mancos Formation with secondary possible gas production in the Castlegate and Mesaverde Formations.

Gregg Smith

Steamboat Energy Consultants Fort Collins, CO 80526 970-819-5450



Ohio Creek Conglomerate Figure 1



Lower Sego 6,570'-6,580' Figure 2



Castlegate SS 6750' to 6760' Figure 3



Siderite & Quartz Crystals, Mancos B Figure 4



Dakota SS 10,860' - 10,880' Figure 5



Dakota 10,900' - 10,920' Figure 6



Cedar Mountain 10,940' to 10,950' Figure 7

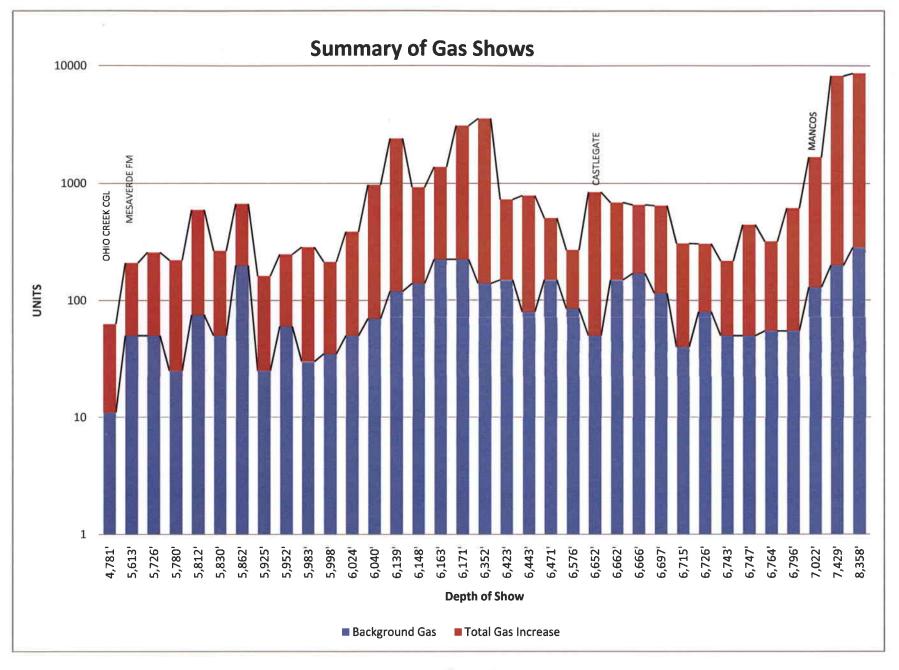


Curtis SS 11,710'-11,740' Figure 8

SUMMARY OF GAS SHOWS

| | Show | DEPTH | Tot | al Gas (ur | nits) | C | hromatog | raph (ppn | n) |
|----------------|------|--------|-------|------------|----------|--------|----------|-----------|-------|
| Formation | No | (MD) | BK GD | Peak | Increase | C1 | C2 | C3 | C4 |
| Ohio Creek Cgl | 1 | 4,781' | 11 | 52 | 41 | 3257 | 1959 | 0 | 0 |
| | 2 | 5,613' | 50 | 160 | 110 | 12150 | 2464 | 1408 | 0 |
| | 3 | 5,726' | 50 | 208 | 158 | 16096 | 2917 | 1570 | 192 |
| | 4 | 5,780' | 25 | 196 | 171 | 15131 | 2670 | 1328 | 433 |
| | 5 | 5,812' | 75 | 521 | 446 | 43251 | 5732 | 677 | 2241 |
| | 6 | 5,830' | 50 | 216 | 166 | 16334 | 3430 | 1626 | 250 |
| | 7 | 5,862' | 199 | 470 | 271 | 34896 | 7473 | 3976 | 678 |
| | 8 | 5,925' | 25 | 137 | 112 | 11066 | 1933 | 702 | 0 |
| | 9 | 5,952' | 60 | 188 | 128 | 14903 | 2907 | 835 | 101 |
| | 10 | 5,983' | 30 | 256 | 226 | 20613 | 4018 | 978 | 0 |
| | 11 | 5,998' | 35 | 179 | 144 | 15054 | 2518 | 358 | 0 |
| Mesaverde | 12 | 6,024' | 50 | 337 | 287 | 22662 | 5853 | 3794 | 1365 |
| | 13 | 6,040' | 70 | 900 | 830 | 68487 | 18046 | 2881 | 544 |
| | 14 | 6,139' | 120 | 2291 | 2171 | 175488 | 37963 | 12674 | 2989 |
| | 15 | 6,148' | 140 | 788 | 648 | 56788 | 14869 | 5529 | 1593 |
| | 16 | 6,163' | 225 | 1153 | 928 | 84105 | 18536 | 9128 | 3546 |
| | 17 | 6,171' | 225 | 2871 | 2646 | 216823 | 61183 | 7917 | 1218 |
| | 18 | 6,352' | 140 | 3417 | 3277 | 57982 | 11755 | 3939 | 680 |
| | 19 | 6,423' | 150 | 580 | 430 | 39431 | 11753 | 5142 | 1654 |
| | 20 | 6,443' | 80 | 707 | 627 | 54661 | 15344 | 4744 | 1206 |
| | 21 | 6,471' | 150 | 356 | 206 | 24539 | 5904 | 3947 | 1197 |
| | 22 | 6,576' | 85 | 185 | 100 | 13556 | 2574 | 1810 | 558 |
| | 23 | 6,652' | 50 | 792 | 742 | 62614 | 14219 | 2030 | 362 |
| | 24 | 6,662' | 150 | 536 | 386 | 40670 | 9485 | 2968 | 523 |
| | 25 | 6,666' | 170 | 486 | 316 | 36818 | 8587 | 2687 | 474 |
| | 26 | 6,697' | 115 | 531 | 416 | 41436 | 8693 | 2479 | 535 |
| Castlegate | 27 | 6,715' | 40 | 267 | 227 | 19667 | 4286 | 2112 | 624 |
| Castlegate | 28 | 6,726' | 80 | 225 | 145 | 5738 | 1057 | 679 | 199 |
| | 29 | 6,743' | 50 | 168 | 118 | 12330 | 2374 | 1553 | 581 |
| | 30 | 6,747' | 50 | 394 | 344 | 31172 | 6551 | 1457 | 255 |
| | 31 | 6,764' | 55 | 265 | 210 | 19148 | 4323 | 2162 | 917 |
| | 32 | 6,796' | 55 | 561 | 506 | 41090 | 9162 | 4124 | 1763 |
| | 33 | 7,022' | 130 | 1545 | 1415 | 111112 | 32327 | 9403 | 1668 |
| Managa Obala | 34 | 7,429' | 200 | 8012 | 7812 | 462754 | 224374 | 106021 | 8098 |
| Mancos Shale | 35 | 8,358' | 285 | 8350 | 8065 | 453779 | 267032 | 77704 | 36632 |
| | | | | | | | | | |

NOTE: After the gas increase at 8,358' the background gas remained between ~6,000 and 8,000 units effectively masking any other formation gas increases which were subsequently liberated at lower depths.



DAILY DRILLING CHRONOLOGY

Wind River Resources Corporation

NHC 14-8-15-20

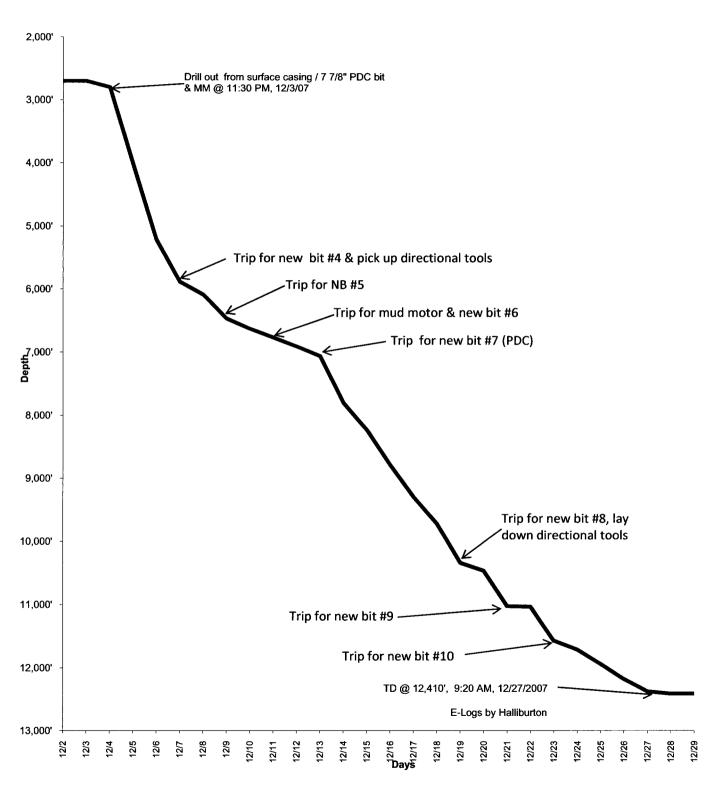
| Day | DATE (2007) | 6:00 AM DEPTH (MDT) | Footage Previous 24 Hrs. | Activity |
|-----|----------------|---------------------------|--------------------------------|--|
| 1 | 12/1 | 2,564' | 329' | Drilling to 2700' @ 12:30 PM, condition Mud, short trip 12 stands, condition mud, trip out for surface casing, lay down 8" drill collars, rig up casers, run casing, rig down casers and circulate. |
| 2 | 12/2 | 2,700' | 136' | Circulate, rig up cementers and cement, plug down @10:00 AM, wait on cement, cut off and weld on well head, test well head to 10,000 pounds, nipple up B.O.P, hook up flair lines, pressure test B.O.P. |
| 3 | 12/3 | 2,700' | 0' | Test B.O.P., install wear bushing, top off cement, rig up flare lines, level derrick, trip in hole, wash and ream to cement, drill flot and shoe, drill out @ 11:30 PM, drill to 7005' and test new hole to 290 psi, drilling, trip out two stands to pack swivel, drilling. |
| 4 | 12/4 | 2,800' | 100' | Drilling. |
| 5 | 12/5 | 4,026' | 1,226' | Drilling. |
| 6 | 12/6 | 5,220' | 1,194' | Drilling, drill to 5,885, condition hole, trip out to pick up directional tools. |
| 7 | 12/7 | 5,885' | 665' | Trip out, pick up new bit #4, Weatherford MWD and mud motors, begin directional drilling. |
| 8 | 12/8 | 6,088' | 203' | Directional drilling. |
| 9 | 12/9 | 6,465' | 377' | Directional drilling, trip for new bit #5 @ 6,628'. cut drilling line, trip in hole. |
| 10 | 12/10 | 6,628' | 163' | Wash and ream to botton, directional drilling, trip for mud motor and new bit #6 @ 6,767', trip into hole. |
| 11 | 12/11 | 6,767' | 139' | Wash and ream to botton, directional drilling. |
| 12 | 12/12 | 6,910' | 143' | Directional drilling, trip for new bit #7 @ 6,985', change out MWD, directional drilling. |
| 13 | 12/13 | 7,060' | 150' | Directional drilling. |
| 14 | 12/14 | 7,795' | 735' | Directional drilling. |
| 15 | 12/15 | 8,229' | 434' | Directional drilling. |
| 16 | 12/16 | 8,784' | 555' | Directional drilling. |

DAILY DRILLING CHRONOLOGY

| Day | DATE (2007) | 6:00 AM DEPTH (MDT) | Footage Previous 24 Hrs. | Activity |
|-----|----------------|---------------------------|--------------------------------|---|
| 17 | 12/17 | 9,290' | 506' | Directional drilling. |
| 18 | 12/18 | 9,716' | 426' | Directional drilling, |
| 19 | 12/19 | 10,339' | 623' | Directional drilling, trip for new bit @ 6,463', lay down directional tools, trip in hole. |
| 20 | 12/20 | 10,463' | 124' | Complete trip, wash and ream to bottom, drilling. |
| 21 | 12/21 | 11,025' | 562' | Drilling, trip for new bit #9 @11,025', drilling. |
| 22 | 12/22 | 11,033' | 8' | Drilling. |
| 23 | 12/23 | 11,570' | 537' | Drilling, trip for bit #10 @ 11711'. |
| 24 | 12/24 | 11,711' | 141' | Wash to bottom, drilling. |
| 25 | 12/25 | 11,937' | 226' | Drilling. |
| 26 | 12/26 | 12,178' | 241' | Drilling, |
| 27 | 12/27 | 12,375' | 197' | Drilling, TD @ 12,410', 9:20 am, circulate, short trip, circulate, trip out for E-Logs, logging |
| 28 | 12/28 | 12,410' | 35' | Logging, condition hole for casing |
| 29 | 12/29 | 12,410' | 0' | Run Casing |

PENETRATION RATE / TIME CHART

NHC 14-8-15-20



BIT RECORD

| | OPE | RAT | OR: | Wind | River Re | source | es Co | rporati | on | | | WE | LL NA | ME: | NH | I C | 14- | 8-15 | 5-20 |) | | | | |
|----|----------|------------|----------|--------------|----------------|--------------|--------|---------|-------|-------------|-------------|-------|-------------|---------------|-----|----------------|-------|------|------|----|------|-------|---------|------------|
| | SI | FC LO | CATION: | NE I | NW Sec 17, | T15S, R | 20E | 2,419 | ' FWL | & 195' Fi | VL | вн | LOCA | TION: | SE | sv | V Sec | 8, T | 15S, | R2 | ЭE | 82' | FSL & 2 | ,526' FWL |
| | Starting | Depth: | 568' | | | | | | Date | Drilled | 11/26 | /2007 | to | 12/27/20 | 07 | | | | | | | | | |
| | D | rill Pipe | | 4.5", 1 | 6.6#, g-105 | X-l | 1 | | | | #1 | Em | sco | F 800 |) | | | == | | | True | Drill | ing LLC | |
| | | I.W.D.P | | | 4.5" 6 1/2" | 30 j 9 jt | | | PU | MPS | #2 | G | D | PZ-8 | 3 | | CO | NIRA | АСТО | ĸ | RI | Э# | 22 | |
| | | iii Çollal | | <u> </u> | 0 1/2 | | | | | ACCUM | WT | _ | | | SF | M | | MUD | | | DUI | L CC | OND | FORMATION |
| NO | SIZE | MAKE | TYPE | JET | SERIAL | DEPTH OUT | FEET | HOURS | FT/HR | DRLG HRS | 1000 LBS | RPM | VERT DEV | PUMP PRESS | 1 | | WT | vis | WL | T | В | G | OTHER | REMARKS |
| 1 | 12 1/4 | STC | F-15 | 3 X 15 | MX472 | 1,736' | 1,168' | 48 1/2 | 24 | 48.5 | 35 | 40 | 1 | 1850 | 87 | | | | | | | | | Wasatch |
| 2 | 12 1/4 | STC | F-37 Y | 3 X 18 | PG9638 | 2,700' | 964' | 53 | 18 | 101 1/2 | 40 | 40 | 1 | 1780 | 88 | | | | | | | | | Wasatch |
| 3 | 7 7/8 | STC | MASi 513 | 6 X 15 | JX2402 | 5,885' | 3,185' | 69 | 46 | 170 1/2 | 25 | 55 | 2 | 1500 | 120 | | 9.3 | 38 | 11.0 | | | | | Mesaverde |
| 4 | 7 7/8 | STC | FH28 | 16 16 22 | PD2320 | 6,628' | 743' | 50 | 15 | 220 1/2 | 40 | 55 | 3 | 1500 | 120 | | 9.4 | 38 | 11.0 | 8 | 2 | 1/4 | | Mesaverde |
| 5 | 7 7/8 | STC | FH28 | 17 16 22 | PD2319 | 6,767' | 139' | 11 | 13 | 231 1/2 | 40 | 55 | 4.5 | 1500 | 120 | | 9.5 | 38 | 8.0 | 8 | 4 | 1 | | Castlegate |
| 6 | 7 7/8 | STC | MF4H | 16 16 18 | PH0520 | 6,985' | 218' | 24 1/2 | 9 | 256 | 40 | 50 | 5 | 1725 | 120 | | 9.5 | 40 | 8.0 | 2 | 1 | 1/8 | | Mancos |
| 7 | 7 7/8 | STC | MASi 513 | 3X15 2X18 | JX5513 | 10,463' | 3,478' | 151 1/2 | 23 | 407 1/2 | 20 | 50 | 6.4 | 1700 | 120 | | 9.5 | 40 | 8.0 | 3 | - | ı | | Mancos |
| 8 | 7 7/8 | STC | MASi 513 | 5X16 | JK3791 | 11,025' | 562' | 20 1/2 | 27 | 428 | 20 | 50 | 2 | 1700 | 120 | | 9.6 | 38 | 8.0 | 6 | - | 1 | groved | Cedar Mtn |
| 9 | 7 7/8 | STC | Mi 616 | 6X18 | JX8990 | 11,711' | 686' | 42 1/2 | 16 | 470 1/2 | 20 | 54 | 3.5 | 1700 | 120 | | 9.3 | 42 | 9.0 | 2 | - | 1 | | Mprrison |
| 10 | 7 7/8 | STC | Mi 613 | 6X18 | JX9238 | 12,410' | 699' | 71 | 10 | 541 1/2 | 25 | 51 | 3 | 1900 | 120 | | 9.5 | 44 | 8.5 | | | | | Wingate |
| | | | | | | | | | | | | | | | | | | | | | | | | |

541.5 Total Rotating Hours

DRILLING PARAMETERS

Operator: Wind River Resources Corporation

Well Name: NHC 14-8-15-20

| DRILLING PARAMETERS | | | | | | | | | |
|---------------------|--------------------|-----------------------|--------------------|-----|--|--|--|--|--|
| DEPTH | ROTARY TABLE SPEED | WT. ON BIT (1000 lbs) | STROKES PER MINUTE | | | | | | |
| 1,007' | 40 | 35 | 1850 | 90 | | | | | |
| 1,573' | 40 | 35 | 1850 | 93 | | | | | |
| 1,913' | 41 | 35 | 1750 | 92 | | | | | |
| 2,072' | 42 | 35 | 1800 | 92 | | | | | |
| 2,564' | 40 | 40 | 1700 | 94 | | | | | |
| 2,789' | 55 | 10 | 1100 | 120 | | | | | |
| 3,730' | 55 | 20 | 1100 | 120 | | | | | |
| 4,915' | 55 | 18 | 1400 | 120 | | | | | |
| 5,705' | 55 | 25 | 1500 | 120 | | | | | |
| 5,963' | 55 | 35 | 1450 | 120 | | | | | |
| 6,326' | 55 | 35 | 1475 | 120 | | | | | |
| 6,628' | 54 | 38 | 1560 | 120 | | | | | |
| 6,767' | 51 | 38 | 1600 | 120 | | | | | |
| 6,858' | 51 | 35 | 1750 | 120 | | | | | |
| 6,910' | 55 | 40 | 1790 | 120 | | | | | |
| 7,060' | 54 | 12 | 1350 | 120 | | | | | |
| 7,566' | 55 | 10 | 1550 | 120 | | | | | |
| 8,105' | 55 | 15 | 1525 | 120 | | | | | |
| 8,570' | 50 | 15 | 1800 | 120 | | | | | |
| 9,160' | 45 | 15 | 1700 | 120 | | | | | |
| 9,542' | 50 | 20 | 1700 | 115 | | | | | |
| 10,185' | 50 | 15 | 1700 | 120 | | | | | |
| 10,463' | 50 | 15 | 1950 | 120 | | | | | |
| 10,950' | 51 | 20 | 1800 | 120 | | | | | |
| 11,033' | 51 | 25 | 1650 | 120 | | | | | |
| 11,476' | 54 | 24 | 1700 | 120 | | | | | |
| 11,853' | 51 | 22 | 1850 | 120 | | | | | |
| 12,100' | 55 | 26 | 1750 | 120 | | | | | |
| 12,305' | 51 | 32 | 1900 | 120 | | | | | |

DAILY DRILLING MUD REPORT

Operator:

Wind River Resources Corporation

Well Name:

NHC 14-8-15-20

| Well Name: | NHC 14-8-15-20 | | | | | | | | | |
|--|----------------|---------|--------|--------|--------|--------|--------|---------|-----------|----------|
| Mud-up Depth: | 2,700' | Mud | Туре: | LSND | | | | Mustan | g Drillin | g Fluids |
| Report # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Date, 2007 | 11/24 | 11/25 | 11/26 | 11/27 | 11/28 | 11/29 | 11/30 | 12/1 | 12/3 | 12/4 |
| Depth (ft) TVD | | 552' | 771' | 1,325' | 1,736' | 1,853' | 2,325' | 2,679' | 2,700' | 2,958' |
| Weight (lbs/gal.) | | 8.8 | 8.7 | 8.7 | 8.8 | 9.1 | 9.1 | 9.0 | 9.3 | 9.0 |
| Funnel Viscosity (Sec/qt. API) | | 41 | 37 | 38 | 41 | 38 | 36 | 40 | 44 | 41.0 |
| Plastic Viscosity cp | | 13 | 10 | 8 | 11 | 10 | 8 | 11 | 12 | 11.0 |
| Yield Point (lb/100 ft ² .) | | 5 | 7 | 7 | 10 | 8 | 8 | 12 | 10 | 7.0 |
| Gel Strength 10 sec/10 min. | | 1/4 | 2/8 | 2/6 | 4/14 | 3/8 | 2/6 | 4/14 | 2/8 | 5/12 |
| pH (meter) | | 10.5 | 10.5 | 11.0 | 10.0 | 9.9 | 9.2 | 9.8 | 9.0 | 11.5 |
| Filtrate API (ml ³ /30 min) | <u> 5</u> | 12 | 11.8 | 15.0 | 14.0 | 13.8 | 12.8 | 12.4 | 12.8 | 20.0 |
| Cake Thickness 32nd | Spud | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3.0 |
| Alkalinity, Mud (Pm) | Pre (| 1.1 | 1.2 | 1.0 | 0.9 | 0.9 | 0.7 | 0.8 | 0.7 | 2.3 |
| Alkalinity, Filtrate (Pf/Mf) | ۵ | .65/1.9 | .6/1.5 | .5/1.3 | 3/12 | .4/1.2 | .2/1.8 | .35/1.5 | .2/1.7 | .75/1.4 |
| Chloride Content,(mg/L) | | 2400 | 1200 | 900 | 900 | 800 | 800 | 900 | 800 | 800 |
| Total Hardness, (mg/L) | | 40 | 40 | 40 | 40 | 40 | 20 | 20 | 40 | 40.0 |
| Sand Content (% by Vol.) | | 0.25 | 0.25 | 0.25 | tr | tr | tr | tr | tr | tr |
| Retort Solids (% by Vol.) | | 3.0 | 3.0 | 3.0 | 3.0 | 5.0 | 5.0 | 5.0 | 7.0 | 4.0 |
| Retort Liquid (% Vol.) Oil/Wtr | | 97.0 | 97.0 | 97.0 | 97.0 | 95.0 | 95.0 | 95.0 | 93.0 | 96.0 |
| ECD | | 8.925 | 8.875 | 8.875 | 9.050 | 9.300 | 9.300 | 9.300 | 9.350 | 9.175 |

| Report # | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|--|--------|---------|---------|--------|--------|---------|--------|--------|--------|--------|
| Date, 2007 | 12/5 | 12/6 | 12/7 | 12/8 | 12/9 | 12/10 | 12/11 | 12/12 | 12/13 | 12/14 |
| Depth (ft) TVD | 4,242' | 5,344' | 5,885' | 6,124' | 6,546' | 6,655' | 6,767' | 6,972' | 7,232' | 7,919' |
| Weight (lbs/gal.) | 9.2 | 9.3 | 9.5 | 9.3 | 9.4 | 9.5+ | 9.6 | 9.4+ | 9.4 | 9.3 |
| Funnel Viscosity (Sec/qt. API) | 36 | 36 | 39 | 35 | 38 | 40 | 38 | 38 | 40 | 40 |
| Plastic Viscosity cp | 11 | 11 | 13 | 10 | 13 | 12 | 13 | 12 | 12 | 12 |
| Yield Point (lb/100 ft ² .) | 4 | 6 | 8 | 4 | 6 | 10 | 6 | 10 | 10 | 8 |
| Gel Strength 10 sec/10 min. | 1/4 | 1/6 | 2/8 | 1/4 | 2/8 | 2/8 | 2/6 | 2/6 | 2/6 | 1/4 |
| pH (meter) | 10.5 | 10.1 | 10.2 | 9.5 | 10.5 | 10.0 | 10.0 | 10.1 | 10.3 | 10.0 |
| Filtrate API (ml ³ /30 min) | 11.0 | 11.8 | 10.4 | 10.4 | 11.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.4 |
| Cake Thickness 32nd | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Alkalinity, Mud (Pm) | 1.3 | 1.2 | 1 | 1.0 | 1.2 | 0.9 | 0.9 | 1.0 | 1.0 | 0.9 |
| Alkalinity, Filtrate (Pf/Mf) | .4/1.3 | .35/1.2 | .25/1.2 | .4/1.3 | .5/1.6 | .45/1.4 | .3/1.4 | .4/1.6 | .4/1.8 | .4/1.8 |
| Chloride Content,(mg/L) | 800 | 600 | 600 | 700 | 700 | 900 | 900 | 700 | 800 | 800 |
| Total Hardness, (mg/L) | 30 | 20 | 20 | 20 | 30 | 30 | 30 | 30 | 30 | 30 |
| Sand Content (% by Vol.) | tr | tr | tr | tr | tr | tr | tr | tr | tr | TR |
| Retort Solids (% by Vol.) | 5.0 | 6.0 | 7.0 | 6.0 | 6.0 | 7.0 | 8.0 | 6.0 | 6.0 | 5.0 |
| Retort Liquid (% Vol.) Oil/Wtr | 95.0 | 94.0 | 93.0 | 94.0 | 94.0 | 93.0 | 92.0 | 9.4 | 94.0 | 95.0 |
| ECD | 9.3 | 9.45 | 9.7 | 9.400 | 9.550 | 9.750 | 9.750 | 9.650 | 9.650 | 9.500 |

DAILY DRILLING MUD REPORT

| Operator: | Wind R | liver Res | sources | Corpora | ition | | | | | |
|--|----------------|------------|-------------|---------|----------|---------|---------|---------|---------------------------------------|----------|
| Well Name: | NHC 14-8-15-20 | | | -, - | <u> </u> | | | | | |
| Mud-up Depth: | 2,700' | Mud | Туре: | LSND | | | | Mustan | g Drillin | g Fluids |
| Report# | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Date, 2007 | 12/15 | 12/16 | 12/17 | 12/18 | 12/19 | 12/20 | 12/22 | 12/23 | 12/24 | 12/26 |
| Depth (ft) TVD | 8,292' | 8,890' | 9,315' | 9,839' | 10,390' | 10,641' | 11,309' | 11,605' | 11,734' | 12,214' |
| Weight (lbs/gal.) | 9.5 | 9.4+ | 9.5 | 9.5+ | 9.5+ | 9.6 | 9.4+ | 9.3+ | 9.5+ | 9.5+ |
| Funnel Viscosity (Sec/qt. API) | 41.0 | 45 | 42 | 37 | 39 | 38 | 37 | 42 | 46 | 42.0 |
| Plastic Viscosity cp | 15.0 | 18 | 16 | 14 | 15 | 14 | 12 | 16 | 29 | 18.0 |
| Yield Point (lb/100 ft ² .) | 7.0 | 10 | 9 | 7 | 8 | 8 | 5 | 7 | 8 | 9.0 |
| Gel Strength 10 sec/10 min. | 1/5 | 2/12 | 2/10 | 1/5 | 2/6 | 2/6 | 1/5 | 2/6 | 2/6 | 2/5 |
| pH (meter) | 9.8 | 10.5 | 10 | 9.5 | 10.0 | 9.5 | 10.3 | 10.0 | 10.4 | 10.0 |
| Filtrate API (ml ³ /30 min) | 8.0 | 9 | 8.4 | 8.0 | 8.4 | 8.0 | 8.4 | 9.0 | 9.0 | 8.4 |
| Cake Thickness 32nd | 2.0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.0 |
| Alkalinity, Mud (Pm) | 0.8 | 1 | 0.8 | 0.9 | 1.0 | 0.7 | 0.9 | 0.7 | 1.1 | 1.0 |
| Alkalinity, Filtrate (Pf/Mf) | .2/1.6 | .5/2.0 | .3/1.6 | .25/1.4 | .35/1.6 | .25/1.3 | .4/1.7 | .3/1.6 | .4/1.6 | .25/1.4 |
| Chloride Content,(mg/L) | 800 | 800 | 800 | 800 | 700 | 700 | 700 | 900 | 800 | 800 |
| Total Hardness, (mg/L) | 30.0 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40.0 |
| Sand Content (% by Vol.) | tr | 25 | 0.25 | 0.25 | tr | tr | tr | tr | 0.25 | 0.25 |
| Retort Solids (% by Vol.) | 7.0 | 6.0 | 7.0 | 7.0 | 7.0 | 8.0 | 7.0 | 6.0 | 8.0 | 8.0 |
| Retort Liquid (% Vol.) Oil/Wtr | 93.0 | 94.0 | 93.0 | 83.0 | 93.0 | 92.0 | 93.0 | 94.0 | 92.0 | 92.0 |
| ECD | 9.7 | 9.65 | 9.725 | 9.675 | 9.700 | 9.800 | 9.525 | 9.475 | 9.700 | 9.725 |
| | | | | | | | | | | |
| Report # | 21 | ********** | | | | | | | | |
| Date, 2007 | 12/27 | | | | | | | | | |
| Depth (ft) TVD | 12,400' | | | | | | | | | |
| | | | | | | | | | | |
| Weight (lbs/gal.) | 9.6 | | | | | | | | | ···· |
| Funnel Viscosity (Sec/qt. API) | 49.0 | | | | | | | | | |
| Plastic Viscosity cp | 23.0 | | | | | | | | | |
| Yield Point (lb/100 ft ² .) | 12.0 | | | | | | | | | |
| Gel Strength 10 sec/10 min. | 2/12 | | | | | | | | · · · · · · · · · · · · · · · · · · · | |
| pH (meter) | 10.0 | | | | | | | | | |
| Filtrate API (ml ³ /30 min) | 8.0 | | | | | | | | | |
| Cake Thickness 32nd | 2.0 | | | | | | | | | |
| Alkalinity, Mud (Pm) | 1.0 | | | | | | | | | |
| Alkalinity, Filtrate (Pf/Mf) | .6/2.0 | | | | | | | | | |
| Chloride Content,(mg/L) | 1500 | | | | | | | | | |
| Total Hardness, (mg/L) | 40.0 | | | | | | | | | |
| Sand Content (% by Vol.) | 0.3 | | | | | | | | | |
| Retort Solids (% by Vol.) | 8.5 | | | | | | | | | |
| Retort Liquid (% Vol.) Oil/Wtr | 91.5 | | | | | | | | | |
| ECD | 9.9 | | | | | | l | | | |

DIRECTIONAL SURVEYS

Date : 12/19/2007

Client : Wind River Resources
Well Name : NORTH HILL CREEK 14-8-15-20
Location : NE NW Sec 17 T15S R20E
KB Elevation : 7259 Gr Elevation :7243.00

Vertical Section Calculated Along Azimuth 4.73°

| MD | Inc | Azi | TVD | North | East | V'Sect | D'Leq | Build | Turn |
|---------|------|--------|---------|--------|--------|--------|-------|-------|--------|
| ft | deg | deg | ft | ft | ft | ft | °/100 | °/100 | °/100 |
| | | - | | | | | | • | • |
| 0.00 | 0.00 | 4.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2815.00 | 0.81 | 3.69 | 2814.91 | 19.86 | 1.28 | 19.89 | 0.03 | 0.03 | -0.04 |
| 3465.00 | 1.44 | 333.81 | 3464.78 | 31.77 | -2.03 | 31.49 | 0.13 | 0.10 | -4.60 |
| 3651.00 | 1.63 | 340.94 | 3650.72 | 36.37 | -3.92 | 35.92 | 0.14 | 0.10 | 3.83 |
| 4297.00 | 1.38 | 30.69 | 4296.52 | 51.74 | -2.95 | 51.32 | 0.20 | -0.04 | 7.70 |
| 4237.00 | 1.50 | 30.03 | 4290.32 | 31.79 | -2.33 | 31.32 | 0.20 | -0.04 | 7.70 |
| | | | | | | | | | |
| 4741.00 | 1.44 | 46.81 | 4740.39 | 60.16 | 3.84 | 60.27 | 0.09 | 0.01 | 3.63 |
| 5208.00 | 2.50 | 89.94 | 5207.13 | 64.19 | 18.31 | 65.48 | 0.38 | 0.23 | 9.24 |
| 5610.00 | 3.06 | 95.81 | 5608.65 | 63.11 | 37.75 | 66.01 | 0.16 | 0.14 | 1.46 |
| 5854.00 | 2.96 | 98.11 | 5852.32 | 61.56 | 50.47 | 65.51 | 0.06 | -0.04 | 0.94 |
| 5914.00 | | | | | | | | | |
| 5914.00 | 2.89 | 92.38 | 5912.24 | 61.28 | 53.51 | 65.48 | 0.50 | -0.12 | -9.55 |
| | | | | | | | | | |
| 5975.00 | 2.63 | 79.19 | 5973.17 | 61.48 | 56.42 | 65.92 | 1.12 | -0.43 | -21.62 |
| 6037.00 | 2.25 | 56.94 | 6035.11 | 62.41 | 58.84 | 67.05 | 1.63 | -0.61 | -35.89 |
| 6099.00 | 2.31 | 36.56 | 6097.06 | 64.08 | 60.60 | 68.85 | 1.30 | 0.10 | -32.87 |
| 6162.00 | 2.75 | 20.52 | 6160.00 | 66.51 | 61.89 | 71.39 | 1.32 | 0.70 | -25.46 |
| 6223.00 | 3.38 | 11.94 | 6220.92 | 69.64 | 62.77 | 74.58 | 1.27 | 1.03 | -14.07 |
| 0223.00 | 3.30 | 11.74 | 0220.92 | 09.04 | 02.77 | 74.56 | 1.27 | 1.03 | -14.07 |
| 5505 00 | | | | | | | | | |
| 6285.00 | 3.94 | 6.31 | 6282.79 | 73.55 | 63.39 | 78.52 | 1.07 | 0.90 | -9.08 |
| 6346.00 | 4.63 | 6.81 | 6343.62 | 78.07 | 63.91 | 83.08 | 1.13 | 1.13 | 0.82 |
| 6408.00 | 4.81 | 15.56 | 6405.41 | 83.06 | 64.90 | 88.13 | 1.20 | 0.29 | 14.11 |
| 6469.00 | 3.63 | 22.31 | 6466.24 | 87.31 | 66.32 | 92.48 | 2.10 | -1.93 | 11.07 |
| 6532.00 | 3.56 | 19.31 | 6529.12 | 91.00 | 67.73 | 96.28 | 0.32 | -0.11 | -4.76 |
| 0332.00 | 3.50 | 10.51 | 0323.12 | 51.00 | 07.75 | 30.20 | 0.52 | -0.11 | -4.70 |
| CEOE 00 | 2 04 | 14 60 | 6501 00 | 04 04 | 60.00 | 100 30 | | 0 60 | |
| 6595.00 | 3.94 | 14.69 | 6591.99 | 94.94 | 68.92 | 100.30 | 0.77 | 0.60 | -7.33 |
| 6657.00 | 3.80 | 7.36 | 6653.84 | 99.04 | 69.72 | 104.45 | 0.83 | -0.23 | -11.82 |
| 6719.00 | 4.63 | 358.19 | 6715.68 | 103.58 | 69.91 | 108.99 | 1.72 | 1.34 | -14.79 |
| 6781.00 | 4.81 | 351.56 | 6777.47 | 108.65 | 69.45 | 114.01 | 0.93 | 0.29 | -10.69 |
| 6842.00 | 5.25 | 352.44 | 6838.23 | 113.95 | 68.71 | 119.23 | 0.73 | 0.72 | 1.44 |
| | 0.20 | 002111 | 0000120 | | 001.12 | | 0.75 | 0.72 | |
| 6904.00 | 5.19 | 348.19 | 6899.97 | 119.51 | 67.76 | 124.69 | 0.63 | -0.10 | -6.85 |
| | | | | | | | | | |
| 6973.00 | 5.06 | 359.06 | 6968.70 | 125.60 | 67.07 | 130.71 | 1.42 | -0.19 | 15.75 |
| 7033.00 | 5.50 | 351.81 | 7028.45 | 131.10 | 66.62 | 136.14 | 1.33 | 0.73 | -12.08 |
| 7095.00 | 6.13 | 343.56 | 7090.13 | 137.21 | 65.26 | 142.13 | 1.69 | 1.02 | -13.31 |
| 7157.00 | 5.97 | 341.96 | 7151.78 | 143.45 | 63.32 | 148.18 | 0.37 | -0.26 | -2.58 |
| | | | | | | | | | |
| 7219.00 | 5.56 | 343.94 | 7213.47 | 149.40 | 61.49 | 153.97 | 0.73 | -0.66 | 3.19 |
| | 5.50 | | | | | | 0.66 | | |
| 7282.00 | | 348.19 | 7276.18 | 155.29 | 60.03 | 159.71 | | -0.10 | 6.75 |
| 7345.00 | 5.19 | 350.94 | 7338.90 | 161.06 | 58.96 | 165.37 | 0.64 | -0.49 | 4.37 |
| 7404.00 | 4.81 | 354.46 | 7397.68 | 166.16 | 58.30 | 170.40 | 0.83 | -0.64 | 5.97 |
| 7466.00 | 5.38 | 352.56 | 7459.43 | 171.63 | 57.68 | 175.80 | 0.96 | 0.92 | -3.06 |
| | | | | | | | | | |
| 7527.00 | 5.81 | 350.06 | 7520.14 | 177.50 | 56.77 | 181.58 | 0.81 | 0.70 | -4.10 |
| 7589.00 | 5.75 | | | | | | | | |
| | | 349.31 | 7581.83 | 183.65 | 55.66 | 187.61 | 0.16 | -0.10 | -1.21 |
| 7653.00 | 5.38 | 351.69 | 7645.53 | 189.77 | 54.63 | 193.63 | 0.68 | -0.58 | 3.72 |
| 7714.00 | 5.19 | 356.44 | 7706.27 | 195.35 | 54.04 | 199.14 | 0.78 | -0.31 | 7.79 |
| 7776.00 | 4.44 | 353.19 | 7768.05 | 200.53 | 53.58 | 204.27 | 1.29 | -1.21 | -5.24 |
| | | | | | | | | | |
| 7838.00 | 4.25 | 351.81 | 7829.87 | 205.19 | 52.97 | 208.86 | 0.35 | -0.31 | -2.23 |
| 7899.00 | 4.50 | 354.19 | 7890.69 | 209.81 | 52.41 | 213.41 | 0.51 | 0.41 | 3.90 |
| 7962.00 | | | | | | | | | |
| | 4.63 | 358.69 | 7953.49 | 214.81 | 52.10 | 218.37 | 0.60 | 0.21 | 7.14 |
| 8024.00 | 5.06 | 358.44 | 8015.27 | 220.04 | 51.97 | 223.58 | 0.69 | 0.69 | -0.40 |
| 8086.00 | 5.06 | 356.06 | 8077.03 | 225.50 | 51.71 | 229.00 | 0.34 | 0.00 | -3.84 |
| | | | | | | | | | |

| 8149.00 | 5.44 | 352.44 | 8139.76 | 231.24 | 51.12 | 234.66 | 0.80 | 0.60 | -5.75 |
|----------|------|--------|----------|------------------|----------------|------------------|--------------|--------------|---------------|
| 8210.00 | 6.19 | 346.19 | 8200.45 | 237.30 | 49.96 | 240.61 | 1.61 | 1.23 | -10.25 |
| 8272.00 | 6.38 | 344.31 | 8262.08 | 243.86 | 48.23 | 247.00 | 0.45 | 0.31 | -3.03 |
| 8335.00 | 6.31 | 347.81 | 8324.69 | 250.61 | 46.55 | 253.60 | 0.62 | -0.11 | 5.56 |
| 8396.00 | 6.13 | 351.16 | 8385.33 | 257.11 | 45.34 | 259.97 | 0.66 | -0.30 | 5.49 |
| | | | | | | | | | |
| 8457.00 | 6.00 | 353.81 | 8445.99 | 263.50 | 44.50 | 266.27 | 0.51 | -0.21 | 4.34 |
| 8517.00 | 5.44 | 359.69 | 8505.69 | 269.46 | 44.14 | 272.18 | 1.35 | -0.93 | 9.80 |
| 8579.00 | 4.75 | 7.06 | 8567.45 | 274.94 | 44.44 | 277.67 | 1.53 | -1.11 | 11.89 |
| 8641.00 | 4.13 | 3.19 | 8629.26 | 279.72 | 44.88 | 282.47 | 1.11 | -1.00 | -6.24 |
| 8703.00 | 4.06 | 2.56 | 8691.10 | 284.14 | 45.10 | 286.89 | 0.13 | -0.11 | -1.02 |
| 0864 00 | | 255 05 | 0551 05 | | 45 00 | | | | |
| 8764.00 | 4.06 | 357.06 | 8751.95 | 288.46 | 45.09 | 291.19 | 0.64 | 0.00 | -9.02 |
| 8826.00 | 4.13 | 356.19 | 8813.79 | 292.88 | 44.83 | 295.57 | 0.15 | 0.11 | -1.40 |
| 8889.00 | 4.00 | 357.31 | 8876.63 | 297.33 | 44.58 | 300.00 | 0.24 | -0.21 | 1.78 |
| 8948.00 | 4.13 | 3.06 | 8935.49 | 301.51 | 44.59 | 304.16 | 0.72 | 0.22 | 9.75 |
| 9010.00 | 4.31 | 0.19 | 8997.32 | 306.07 | 44.72 | 308.72 | 0.45 | 0.29 | -4.63 |
| 9073.00 | 3.63 | 353.44 | 9060.17 | 310.42 | 44.50 | 313.03 | 1.31 | -1.08 | -10.71 |
| 9104.00 | 3.31 | 358.56 | 9091.11 | 312.29 | 44.36 | 314.88 | 1.44 | -1.03 | 16.52 |
| 9136.00 | 3.13 | 5.81 | 9123.06 | 314.08 | 44.43 | 316.68 | 1.39 | -0.56 | 22.66 |
| 9198.00 | 2.94 | 12.94 | 9184.97 | 317.31 | 44.96 | 319.94 | 0.68 | -0.31 | 11.50 |
| 9260.00 | 3.00 | 14.06 | 9246.89 | 320.44 | 45.71 | 323.12 | 0.13 | 0.10 | 1.81 |
| 2200.00 | 3.00 | 14.00 | 2240.03 | 320.44 | 43.71 | 323.12 | 0.13 | 0.10 | 1.01 |
| 9323.00 | 3.19 | 12.69 | 9309.80 | 323.75 | 46.49 | 326.48 | 0.32 | 0.30 | -2.17 |
| 9385.00 | 3.50 | 8.31 | 9371.69 | 327.30 | 47.15 | 330.08 | 0.65 | 0.50 | -7.06 |
| 9448.00 | 3.13 | 357.19 | 9434.59 | 330.92 | 47.34 | 333.70 | 1.17 | -0.59 | -17.65 |
| 9510.00 | 2.50 | 355.94 | 9496.51 | 333.96 | 47.16 | 336.71 | 1.02 | -1.02 | -2.02 |
| 9573.00 | 2.19 | 357.56 | 9559.46 | 336.54 | 47.01 | 339.27 | 0.50 | -0.49 | 2.57 |
| | | | | | | | | | |
| 9635.00 | 2.19 | 11.31 | 9621.41 | 338.88 | 47.19 | 341.62 | 0.85 | 0.00 | 22.18 |
| 9697.00 | 1.81 | 8.19 | 9683.38 | 341.01 | 47.57 | 343.77 | 0.64 | -0.61 | -5.03 |
| 9760.00 | 1.56 | 10.44 | 9746.35 | 342.84 | 47.86 | 345.62 | 0.41 | -0.40 | 3.57 |
| 9820.00 | 1.63 | 32.81 | 9806.33 | 344.36 | 48.47 | 347.19 | 1.04 | 0.12 | 37.28 |
| 9882.00 | 1.25 | 57.19 | 9868.31 | 345.47 | 49.52 | 348.38 | 1.15 | -0.61 | 39.32 |
| | | | | | | | | | |
| 9944.00 | 1.38 | 67.19 | 9930.29 | 346.12 | 50.78 | 349.13 | 0.42 | 0.21 | 16.13 |
| 10006.00 | 1.44 | 74.94 | 9992.27 | 346.62 | 52.22 | 349.74 | 0.32 | 0.10 | 12.50 |
| 10069.00 | 1.50 | 78.06 | 10055.25 | 346.99 | 53.79 | 350.25 | 0.16 | 0.10 | 4.95 |
| 10133.00 | 1.94 | 86.56 | 10119.22 | 347.23 | 55.69 | 350.64 | 0.79 | 0.69 | 13.28 |
| 10195.00 | 2.19 | 83.31 | 10181.18 | 347.43 | 57.91 | 351.02 | 0.45 | 0.40 | -5.24 |
| 10258.00 | 2.44 | 79.69 | 10244.13 | 247 01 | 60 42 | 251 61 | 0 16 | 0 40 | c 7c |
| 10238.00 | 2.44 | 78.81 | 10244.13 | 347.81 348.32 | 60.43 63.12 | 351.61 352.34 | 0.46 0.31 | 0.40 0.31 | -5.75 |
| 10320.00 | 2.38 | 80.91 | 10367.01 | 348.80 | 65.75 | 353.03 | 0.31 | -0.41 | -1.42 3.44 |
| 10413.00 | 2.12 | 81.69 | 10397.01 | 348.99 | 66.99 | 353.03 | 0.82 | -0.41 | 2.44 |
| 10463.00 | 1.71 | 82.91 | 10448.96 | 349.21 | 68.64 | 353.68 | 0.82 | -0.82 | 2.44 |
| 10403.00 | 1.71 | 02.71 | 10440.50 | 347.21 | 00.04 | 333.00 | 0.02 | -0.02 | 2.11 |
| 10688.00 | 2.03 | 82.63 | 10673.84 | 350.14 | 75.93 | 355.21 | 0.14 | 0.14 | -0.13 |
| 10788.00 | 2.16 | 82.54 | 10773.77 | 350.61 | 79.56 | 355.98 | 0.13 | 0.13 | -0.09 |
| 10901.00 | 2.34 | 82.43 | 10886.69 | 351.19 | 83.96 | 356.92 | 0.16 | 0.16 | -0.09 |
| 11019.00 | 2.51 | 82.34 | 11004.58 | 351.85 | 88.90 | 357.98 | 0.14 | 0.14 | -0.07 |
| 11028.00 | 2.52 | 82.34 | 11013.57 | 351.90 | 89.29 | 358.07 | 0.14 | 0.14 | -0.07 |
| | | | | | | | | . = - | ' |
| 11370.00 | 3.01 | 82.14 | 11355.17 | 354.14 | 105.64 | 361.64 | 0.14 | 0.14 | -0.06 |
| 11668.00 | 3.44 | 82.02 | 11652.70 | 356.45 | 122.25 | 365.31 | 0.14 | 0.14 | -0.04 |
| 11703.00 | 3.49 | 82.00 | 11687.64 | 356.74 | 124.34 | 365.78 | 0.14 | 0.14 | -0.04 |
| 11711.00 | 3.50 | 82.00 | 11695.62 | 356.81 | 124.82 | 365.89 | 0.14 | 0.14 | -0.04 |
| 11768.00 | 3.48 | 82.00 | 11752.51 | 357.29 | 128.26 | 366.65 | 0.04 | -0.04 | 0.00 |
| | | | | | | | | | |
| 11783.00 | 3.47 | 82.00 | 11767.49 | 357.42 | 129.16 | 366.85 | 0.04 | -0.04 | 0.00 |
| 12060.00 | 3.35 | 82.00 | 12044.00 | 359.71 | 145.47 | 370.48 | 0.04 | -0.04 | 0.00 |
| | | | | | | | | | |

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    12182.00
    3.30
    82.00
    12165.79
    360.70
    152.48
    372.04
    0.04
    -0.04
    0.00

    12257.00
    3.27
    82.00
    12240.67
    361.29
    156.73
    372.99
    0.04
    -0.04
    0.00

    12387.00
    2.54
    235.70
    12370.60
    360.18
    158.01
    371.99
    4.35
    -0.56
    118.23
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Bottom Hole Closure 393.32ft Along Azimuth 23.69°

Begin drilling ~ 5:00 AM, 10/26/07 from pre-drilled surface hole @ 552', surface casing set @ 2,685'.

SAMPLE EVALUATION BEGAN @ 2,700' IN THE WASATCH FM. LAGGED SAMPLES WERE CAUGHT BY RIG PERSONNEL AND DESCRIBED WHILE WET. ALL TOPS LISTED ARE LOG TOPS. SAMPLE DESCRIPTION INTERVALS ARE BASED ON DRILLERS DEPTHS.

| Depth (ft |) Descriptions |
|-----------|---|
| 2700-2750 | CLAYSTONE; light brown to red brown, firm, platy, commonly with very fine silty to gritty texture, trace varigated with light green waxy CLAYSTONE. |
| 2750-2800 | CLAYSTONE; moderately orange pink, soft, platy. subwaxy, predominantly silty in part. SILTSTONE; pale pink to white, soft to firm, very fine, commonly assoc with moderately orange pink CLAYSTONE, tight. |
| 2800-2850 | SANDSTONE; white to off white, friable to firm, fine to lower fine grained, subangular, moderately well sorted, well consolidated, spotty white silica matrix, trace red to dark gray to black mineral |
| 2850-2900 | SANDSTONE; white to clear, friable to firm, fine to lower medium grained, predominantly subangular, moderately well sorted, abundant loose clear, subangular quartz grains, poor visible porosity in well consolidated clusters, inferred fair porosity from abundant loose grains, no fluorescence stain odor or cut |
| 2900-2950 | CLAYSTONE; varigated light brown to red orange, predominantly with mottled texture, scattered green, waxy CLAYSTONE inclusion, |
| 2950-3000 | SANDSTONE; white, friable, fine to lower medium grained, subangular to sub rounded, poor consolidated, moderately well sorted, spotty white calcareous matrix, trace possible glauconite, occasionally black mineral inclusion, commonly with fine disseminated pyrite, occasionally poor intergranular porosity, no fluorescence stain odor or cut. |
| 3000-3050 | SANDSTONE; white friable, continued as above, abundant light gray, firm to hard, blocky, fine to very fine grained, well consolidated, abundant disseminated pyrite, silica, very tight throughout. |
| 3050-3100 | CLAYSTONE; red orange to light brown to pale orange, firm to soft, occasionally silty to sandy in part, occasionally varigated with light green, waxy CLAYSTONE, rarely trace loose Coal. |
| 3100-3150 | SANDSTONE; white to off white, occasionally very light tan, friable, upper medium to no grained, subangular to angular, poor sorted, moderately well consolidated, black mineral inclusion, calcareous in part, abundant loose angular to subangular grains, predominantly clear, occasionally frost in part, trace fair intrusive grained porosity, no fluorescence stain odor or cut. |
| 3150-3200 | CLAYSTONE; Mod orange pink to red brown to pale orange, occasionally white, firm, platy, occasionally varigated, trace light green, subwaxy, trace silty in part |
| 3200-3250 | CLAYSTONE; red brown to pale orange brown to pale purple, firm to soft, platy, occasionally splintery, occasionally varigated, trace pale green, subwaxy, occasionally silty in part. |
| 3250-3300 | SANDSTONE; white to clear, predominantly unconsolidated, subangular to angular, medium to lower medium grained, quartz grains, trace black to green mineral inclusion, trace poor consolidated, slightly calcareous matrix, poor visible porosity, no fluorescence stain odor or cut. CLAYSTONE; continued as above. |
| 3300-3350 | SANDSTONE; white to off white, friable, fine to medium grained, poor consolidated, poor sorted, subangular, trace very pale green mineral inclusion, occasionally spotty milky white calcareous matrix, abundant loose quartz grains, no to poor visible porosity, NFSAC |
| 3350-3400 | CLAYSTONE; varicolored. pale pink to light brown orange, to very pale green, firm to soft, platy, occasionally subwaxy texture, trace silty to sandy, occasionally varigated. |
| 3400-3450 | CLAYSTONE; light pink gray, to very pale brown to very poor pink, firm to soft, commonly varigated, commonly grading to SILTSTONE/SANDSTONE. SANDSTONE; very light brown to pink gray, firm, fine grained, subangular, abundant clay fill, occasionally glauconite and black mineral inclusion, slightly calcareous, tight. |
| 3450-3500 | SANDSTONE; very pale brownish gray, to off white to light brown, firm, fine grained, occasionally hard, blocky, well sorted and consolidated, abundant gray to green to orange, rarely black mineral inclusion, commonly calcareous in part, tight throughout. CLAYSTONE; red orange, soft, blocky to platy, occasionally very pale green, subwaxy, occasionally varigated. |

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| LIGUILI | 11.1 1.78 | escriptions |
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| 3500-3550 | CLAYSTONE; light brown to red orange to pale green to gray green, soft to firm, blocky, commonly |
|-----------------------|---|
| 3300-3330 | varigated in part, trace calcareous. SANDSTONE; continued as above, commonly very fine |
| | grained to silty, silica in part, tight throughout. |
| 3550-3600 | |
| 3550-3600 | CLAYSTONE; red orange to light orange brown, firm, blocky, occasionally very fine silty in part, |
| | trace light green waxy, trace varigated, occasionally calcareous in part, SANDSTONE; pale red |
| | pink, to light gray to light gray brown, firm to hard, fine grained, subangular to angular, moderately |
| | well sorted, very well consolidated, abundant varicolored red to green to dark gray to black mineral |
| 0000 0050 | inclusion, calcareous in part, tight throughout |
| 3600-3650 | SANDSTONE; light gray brown to light gray to white, fine to very fine grained, subangular, well |
| | sorted, well consolidated, abundant fine black, occasionally green to red mineral inclusion, |
| | occasionally silty in part, trace slightly calcareous, tight throughout. CLAYSTONE; red orange, |
| 0050 0700 | continued as above., occasionally varigated with light green. |
| 3650-3700 | SANDSTONE; continued as above, increase grained size to upper fine grained, subangular to |
| | subrounded, no to poor visible porosity, no fluorescence stain odor or cut. CLAYSTONE; red |
| | orange to light brown, firm to soft, blocky, occasionally very fine silty, trace slightly calcareous, trace |
| | varigated with pale green, waxy claystone. |
| 3700-3750 | CLAYSTONE; red brown to red orange, occasionally pale green, soft to firm, blocky to platy, |
| | occasionally fine gritty texture, occasionally subwaxy, trace varigated. |
| 3750-3800 | SANDSTONE; off white to white to dirty brown, friable to firm, fine to upper fine grained, subangular |
| | to subrounded, moderately well sorted, well consolidated, spotty white calcareous matrix, |
| | commonly with medium grained black to red to green mineral inclusion, no to poor visible porosity, |
| - | no fluorescence stain odor or cut. CLAYSTONE; red orange continued as above. |
| 3800-3850 | CLAYSTONE; red orange to red brown to pale pink, firm to soft, platy, fine gritty to silty texture, |
| | commonly subwaxy, trace varigated, SANDSTONE; light gray, firm to hard, fine grained to silty, |
| | occasionally micro black mineral inclusion, silica, tight. |
| 3850-3900 | CLAYSTONE; moderately red orange to moderately red brown, firm to soft, blocky, occasionally |
| | very fine silty, trace floating well rounded quartz grains, rarely varigated. |
| 3900-3950 | SANDSTONE; white to very pale green, friable, medium to upper medium grained, subrounded to |
| | subangular, abundant upper medium grained black angular carbonaceous inclusion, commonly |
| | with medium grained orange to green inclusion, poor intergranular porosity, no fluorescence stain |
| | odor or cut |
| 3950-4000 | CLAYSTONE; red brown to dark red brown, firm to soft, blocky, trace light green, silty in part, rarely |
| | varigated. SANDSTONE; continued as above. |
| 4000-4050 | SANDSTONE; white to light gray to light brown, friable to firm, medium to upper medium grained, |
| | subrounded to subangular, moderately well to poor sorted, abundant coarse grained black and |
| | pale orange mineral inclusion, possible carbonaceous in part, spotty white calcareous matrix, poor |
| | intergranular porosity, no fluorescence stain odor or cut. CLAYSTONE; red orange, continued as |
| | above. |
| 4050-4100 | SANDSTONE; light gray to gray, very fine grained to silty, friable to firm, subangular to subrounded, |
| | commonly with micro black and red mineral inclusion, predominantly calcareous, tight throughout |
| | no fluorescence stain odor or cut. CLAYSTONE; red orange, firm, blocky occasionally pale green, |
| | subwaxy, trace varigated. |
| 4100-4150 | SANDSTONE; light gray to light brown, friable to firm, commonly fine grained to silty continued as |
| | above, abundant medium grained, friable, poor sorted, calcareous, with coarse black and red |
| | orange mineral inclusions trace pyrite, trace dark gray shale partings, no to poor visible porosity no |
| | fluorescence stain odor or cut. CLAYSTONE; continued as above. |
| 4150-4200 | SANDSTONE; off white to light gray, firm, very fine grained to silty, micro black to red to orange |
| 100- 200 | mineral inclusion, predominantly very calcareous tight throughout. CLAYSTONE; green to white to |
| | 1 |
| 4200-4250 | red orange, occasionally silty calcareous, trace varigated. |
| 4 ∠00-4∠00 | SANDSTONE; continued as above, occasionally very pale green, occasionally medium to upper |
| | medium grained with coarse black mineral inclusion, no to poor visible porosity, predominantly |
| | calcareous, no fluorescence stain odor or cut. |

| Depth (ft) Descriptions |
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| 4250-4300 | CLAYSTONE; moderately to dark red orange, occasionally yellow to yellow green, soft, platy to |
|-----------|--|
| 7200 7000 | blocky, commonly calcareous in part, trace white very calcareous grading to argillaceous |
| | LIMESTONE. |
| 4300-4350 | LIMESTONE; white to very pale brown, firm, blocky, fine crystalline, trace very fine sandy, tight |
| 4000 4000 | throughout. CLAYSTONE; varicolored orange to yellow green to brown to pale green, trace very |
| | dark red brown, blocky, trace varigated. |
| 4350-4400 | SANDSTONE; white to off white, firm to friable, medium to upper fine grained, subrounded to |
| 1000 1100 | subangular, moderately well sorted, well consolidated, abundant coarse to medium grained black |
| | mineral inclusion, calcareous matrix, no visible porosity, no fluorescence stain odor or cut. |
| | CLAYSTONE; red orange to pale orange to light green, soft, blocky, occasionally varigated, |
| | predominantly calcareous grading to argillaceous LIMESTONE. |
| 4400-4450 | CLAYSTONE; varicolored, yellow green to yellow to light orange to moderately red orange, firm, |
| | blocky to subblocky, commonly very pale green, subwaxy, occasionally varigated. LIMESTONE; |
| | off white to light gray to light brown, firm to hard, blocky, fine crystalline, tight. |
| 4450-4500 | CLAYSTONE; varicolored, pale green to bright yellow to red orange, firm, subblocky, subwaxy, |
| | occasionally varigated. LIMESTONE; white to cream, hard, blocky, fine to microcrystalline, |
| | commonly dense tight throughout. |
| 4500-4550 | CLAYSTONE; pale green to red brown to dark red brown, firm, blocky, occasionally silty to sandy |
| | with black mineral inclusions, commonly varigated. LIMESTONE; continued as above |
| 4550-4600 | CLAYSTONE; red brown to moderate red orange, firm, subblocky, abundant pale green, |
| | commonly silty to sandy in part, calcareous. |
| 4600-4650 | CLAYSTONE; medium red orange to dark red brown, commonly pale green to gray green, soft, |
| | platy to subblocky, calcareous throughout, occasionally silty in part. LIMESTONE; white to very |
| | light tan, hard, blocky, fine to microcrystalline, trace soft chalky, tight throughout. |
| 4650-4700 | SANDSTONE; medium gray to gray, firm, fine grained to silty, well consolidated and sorted, |
| | abundant fine to micro black carbonaceous inclusion, trace pyritic, slightly calcareous, tight, no |
| | fluorescence stain odor or cut. CLAYSTONE; pale green, continued as above. SHALE; dark gray, |
| | platy subfissile. |
| 4700-4750 | SANDSTONE; white to light gray, firm to friable, medium to upper fine grained, subangular to |
| | subrounded, abundant black mineral inclusion, spotty white calcareous matrix, no to poor visible |
| | porosity, no fluorescence stain odor or cut. CLAYSTONE; bright yellow to yellow green to pale |
| | green, soft, subblocky, trace varigated. |
| | |

OHIO CREEK CONGLOMERATE 4,782' (+2,477')

| 4 | 1750-4800 | CONGLOMERATE; CHERT varicolored bright orange to smoky gray to black to white to yellow to |
|---|-----------|--|
| | | gray, sharp, semi opaque to opaque, trace varigated, trace well rounded pebble fragments. |
| L | | CLAYSTONE; varicolored continued as above. |

MESAVERDE 4,798' (+2,461')

| 4800-4850 | SANDSTONE; light gray to off white, firm, fine to very fine grained, subangular, abundant micro to |
|-----------|--|
| | fine black mineral inclusion, well sorted and consolidated, non calcareous, tight, no fluorescence |
| | stain odor or cut. SHALE; gray to gray green to dark gray, soft, subblocky to platy, consolidated |
| | pale green CLAYSTONE. |
| 4850-4900 | SANDSTONE; white, friable to firm, medium to upper medium grained, subrounded to subangular, |
| | moderately well sorted and consolidated, abundant coarse black carbonaceous inclusion, silica in |
| Ì | part, trace black SHALE partings, occasionally light gray argillaceous, silty, tight to poor visible |
| | porosity, no fluorescence stain odor or cut. SHALE; dark gray to dark brown, firm, platy, commonly |
| | with fine gritty texture. |

Depth (ft) Descriptions

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| 4900-4950 | SANDSTONE; white to off white, firm, upper fine to lower medium grained, subangular to sub |
| | rounded, well consolidated and sorted, abundant fine black mineral inclusion, trace green to red |
| | orange inclusion, occasionally black carbonaceous partings, silica matrix, abundant clear medium |
| | grained, unconsolidated quartz grains, no visible porosity, no fluorescence stain odor or cut. |
| 4950-5000 | SHALE; medium gray, fair, subblocky, commonly fine gritty to silty texture, occasionally thin black |
| | carbonaceous stringers. |
| 5000-5050 | SHALE; medium gray to dark gray, firm, subblocky, predominantly silty in part, commonly with fine |
| | black carbonaceous flakes, occasionally black carbonaceous stringers and partings, trace light to |
| | pale green, waxy. |
| 5050-5100 | SANDSTONE; white to off white, firm to hard, upper fine grained, subrounded to subangular, black |
| | mineral inclusion, silica in part, tight throughout. SHALE; medium gray, continued as above, |
| | abundant very silty, carbonaceous in part. |
| 5100-5150 | SHALE; medium to dark gray, soft, blocky, abundant varicolored pale green to light pink to light |
| | purple to orange, soft, subwaxy, occasionally varigated. |
| 5150-5200 | SHALE; dark gray to dark brown, firm, blocky to platy, commonly with fine gritty texture, |
| ., | occasionally black carbonaceous stringers and partings, occasionally varicolored continued as |
| | above, occasionally loose COAL; black vitreous. |
| 5200-5250 | SHALE; light brown to gray to dark gray, soft to firm, subblocky, commonly very fine silty |
| 0200 0200 | occasionally sandy in part, occasionally black carbonaceous. SANDSTONE; light gray, hard, very |
| | fine grained to silty, well consolidated, commonly with micro black mineral inclusion, occasionally |
| | black carbonaceous SHALE stringers, predominantly silica, tight throughout. COAL; trace only |
| 5250-5300 | SANDSTONE; white to clear, predominantly unconsolidated grains, subrounded to subangular, |
| 3230-3300 | |
| | medium to upper medium grained, inferred porosity, no fluorescence stain odor or cut |
| 5300-5350 | SANDSTONE; white to light gray, friable to firm, very fine grained to silty, moderately well sorted, |
| | well consolidated, occasionally thin white calcareous stringers, occasionally medium grained |
| | subangular with coarse black mineral inclusion, silica, no to poor visible porosity, no fluorescence |
| | stain odor or cut. SHALE; gray to medium gray to dark gray to black, soft, occasionally very fine |
| | silty in part, occasionally carbonaceous. Coal; trace only, continued as above. |
| 5350-5400 | SANDSTONE; white to light gray, friable to firm, upper medium to fine grained, subangular to |
| | subrounded, moderately well to poor sorted, moderately well consolidated, commonly with coarse |
| | black carbonaceous inclusion, occasionally black SHALE parting and stringers, commonly dirty |
| | gray, silty, tight throughout. SHALE; continued as above. |
| 5400-5450 | SANDSTONE; light gray, firm to hard, very fine grained to silty, commonly with micro black mineral |
| | inclusion, siliceous matrix, very tight, trace loose COAL. SHALE; dark brown, subblocky, subfissile, |
| | commonly carbonaceous in part. |
| 5450-5500 | SHALE; dark gray to dark brown, soft, subblocky, occasionally subfissile, commonly with thin black |
| | carbonaceous and Coal stringers, occasionally fine gritty to silty. SHALE; continued as above, |
| | commonly upper medium grained, poor sorted, siliceous, no visible porosity. |
| 5500-5550 | SHALE; dark gray to dark brown, soft to firm, predominantly with fine gritty to silty texture, |
| | commonly with fine black carbonaceous inclusion, occasionally coarse platy carbonaceous debris. |
| | SANDSTONE; light gray, firm, fine grained to silty, siliceous, tight. |
| 5550-5600 | SHALE; dark brown to dark gray, firm, subblocky, occasionally splintery, subfissile, predominantly |
| | with fine gritty to silty texture, abundant fine black carbonaceous debris, trace black carbonaceous |
| | stringers, trace thin pyrite stringers, trace loose COAL |
| 5600-5650 | SANDSTONE; white to light gray, firm to friable, very fine to medium grained, moderately well |
| | sorted, commonly with black to brown mineral inclusion, occasionally black SHALE stringers and |
| | partings, non calcareous white matrix, no visible porosity. SHALE; continued as above, trace loose |
| | COAL; black, brittle, vitreous. LIMESTONE; trace only, very poor green to white, hard blocky very |
| | dull yellow mineral fluorescence, tight. |
| 5650-5700 | SHALE; dark gray to dark brown, soft to firm, platy to subblocky, trace black carbonaceous |
| JUJU-J100 | |
| | stringers, commonly very soft subwaxy. COAL; black, blocky, vitreous. |

Depth (ft) Descriptions

| Deptn (π) | Descriptions |
|-----------|--|
| 5700-5750 | SHALE; abundant varicolored cavings, red orange to green to brown, occasionally dl gray, platy, soft, subfissile, trace thin black shale stringers. SANDSTONE; white, friable, medium to upper medium grained, subangular, moderately well sorted, well consolidated, scattered black to brown mineral inclusion, non calcareous, no visible porosity, no fluorescence stain odor or cut |
| 5750-5800 | SANDSTONE; white to light gray, friable, medium to upper medium grained, subrounded. moderately well sorted and consolidated, scattered black to green to brown medium grained mineral inclusion, spotty white non calcareous matrix, no to poor visible porosity, no fluorescence stain odor or cut. SHALE; gray to gray green, soft, platy, subwaxy, trace varigated, trace loose COAL. |
| 5800-5850 | SANDSTONE; continued as above, trace poor intergranular porosity, no fluorescence stain odor or cut. SHALE; dark brown to dark gray, soft to firm, platy to subblocky, commonly with fine gritty to silty texture, trace very thin black carbonaceous stringers, and micro carbonaceous inclusion, trace loose COAL. |
| 5850-5900 | SHALE; dark gray to dark brown; soft, platy, occasionally subfissile, predominantly with fine gritty texture, occasionally subwaxy, trace thin black COAL and carbonaceous stringers and partings. SANDSTONE, light gray to white; firm, fine to lower medium grained, subangular, siliceous, tight, no fluorescence stain odor or cut |
| 5900-5950 | SHALE; dark gray to dark brown, soft, platy, subfissile, subwaxy, commonly fine gritty to sandy texture, trace black, very carbonaceous. SANDSTONE; white to light gray, friable to firm, fine grained, subangular, siliceous, occasionally black mineral inclusion, no visible porosity, no fluorescence stain odor or cut. |
| 5950-6000 | SHALE; dark gray to brown, continued as above, abundant cavings. SANDSTONE; light gray to light brown, firm, very fine grained, subangular, well sorted and consolidated, no calcareous, no visible porosity, trace very dull yellow fluorescence no odor cut. |
| 6000-6050 | SANDSTONE; light gray to light brown, firm to friable, fine to lower medium grained, subangular to subrounded, well sorted and consolidated, predominantly with gray siliceous matrix, trace poor intergranular porosity, abundant light brown possible dead oil stain, dull yellow fluorescence, no streaming cut, occasionally very faint residual cut, no odor. SHALE; continued as above. |
| 6050-6100 | SANDSTONE; off white to very pale brown, firm to friable, fine grained, subrounded to subangular, well sorted and consolidated, occasionally with fine black mineral inclusion, occasionally light gray siliceous matrix, no to poor visible porosity, commonly with very thin black carbonaceous stringers and partings, trace dull yellow fluorescence, no stain odor or cut. SHALE; medium to dark gray, firm to soft, subblocky, occasionally subfissile, occasionally black carbonaceous stringers, trace waxy varigated. |
| 6100-6150 | SANDSTONE; off white to light brown to light gray, friable to firm, fine to lower fine grained, subrounded to subangular, commonly with black carbonaceous SHALE partings and stringers, rarely assoc with COAL, no to poor visible porosity no fluorescence stain odor or cut. SHALE; continued as above. COAL, trace only, black, blocky occasionally fissile grading to carbonaceous SHALE, trace vitreous. |
| 6150-6200 | SHALE; dark gray to dark brown, soft to firm, platy, subfissile, commonly with fine gritty texture, occasionally thin black carbonaceous stringers. COAL; black, blocky, occasionally fissile in part, predominantly vitreous luster. SANDSTONE; continued as above. |
| 6200-6250 | SHALE; dark brown to dark gray, soft to firm, subblocky, fine gritty to silty texture, abundant carbonaceous stringers and partings, trace micro carbonaceous inclusion, trace pale green, soft waxy. |
| 6250-6300 | SHALE; dark gray to dark brown, soft, subblocky, predominantly fine gritty to silty texture, occasionally thin carbonaceous stringers, trace loose COAL. |
| 6300-6350 | SHALE; continued as above, occasionally subfissile, splintery, trace pale gray to gray green, subwaxy. |

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| 6350-6400 | SHALE; dark gray to dark brown, soft, platy to subblocky, occasionally subfissile, commonly fine gritty to silty, occasionally medium gray with black COAL stringers. SANDSTONE; white to light gray, friable to firm fine to lower fine grained, black to brown mineral inclusion, well sorted and consolidated, occasionally black very carbonaceous stringers and partings, no visible porosity, no |
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| 1 | fluorescence stain odor or cut. COAL, black vitreous, brittle. |
| 6400-6450 | SHALE; dark brown to dark gray, soft, subblocky, fine gritty to silty texture, abundant micro black carbonaceous inclusion, trace very thin COAL stringers and carbonaceous inclusion, rarely pyrite, trace loose COAL. |

UPPER SEGO 6,468' MD, 6,464' TVD (+795')

| 6450-6500 | SANDSTONE; white to very pale brown; friable to firm, medium grained, subrounded to |
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| 1 | subangular, abundant gray to black mineral inclusion, siliceous, trace poor interparticle porosity, no |
| | fluorescence stain odor or cut. SHALE; dark gray to dark brown, firm to soft, platy, subfissile, |
| | commonly carbonaceous. |
| 6500-6540 | SHALE; dark gray to dark brown, firm, subblocky, fine gritty to silty texture, occasionally micro |
| | carbonaceous inclusion, trace, thin carbonaceous stringers, trace loose COAL. |
| 6540-6570 | SHALE; dark gray to dark brown, firm to soft continued as above, occasionally pale green, soft, |
| | blocky, subwaxy. |

LOWER SEGO 6,572' MD, 6,567' TVD (+692')

| 6570-6580 | SANDSTONE; white, friable to firm, subangular to subrounded, moderately well sorted and consolidated, siliceous, abundant medium grained black to dark gray mineral inclusion, rarely glauconite, trace black carbonaceous SHALE stringers and partings. occasionally fair intergranular porosity, dull yellow fluorescence, no stain odor or cut. |
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| 6580-6600 | SANDSTONE; white to light brown, friable to firm, fine to lower medium grained, continued as above, occasionally poor intergranular porosity, dull yellow fluorescence, no stain odor or cut. SHALE; dark gray to medium gray, firm, platy, subfissile to subblocky, commonly carbonaceous in part. |

BUCK TONGUE 6,607' MD, 6,602' TVD (+657')

| 6600-6630 | SHALE; dark gray to dark brown, firm to soft, subblocky, occasionally with gritty texture, trace micro |
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| | carbonaceous inclusion, trace loose COAL. SANDSTONE; white to light brown, continued as |
| | above. |
| 6630-6660 | SHALE; dark gray to dark brown, firm to soft subblocky, fine gritty texture commonly very silty with |
| | fine to micro carbonaceous inclusion. SANDSTONE; light brown to light gray to white, firm to |
| | friable, fine to very fine grained, subrounded, well consolidated, moderately well sorted, |
| | occasionally with coarse carbonaceous inclusion, no to poor visible porosity, trace loose COAL, no |
| | fluorescence stain odor or cut. |

CASTLEGATE 6,640' MD, 6,635' TVD (+624')

| 6660-6690 | SANDSTONE; off white to very pale brown, friable to firm, fine to lower fine grained, subrounded, well sorted and consolidated, commonly with black to brown mineral inclusion, trace black SHALE partings, light gray siliceous matrix, no visible porosity, trace loose COAL, no fluorescence stain odor or cut. |
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| 6690-6720 | SANDSTONE; very pale brown to off white, firm to friable, fine to lower medium grained, subrounded to subangular, black to brown trace red mineral inclusion, well sorted and consolidated, trace poor intergranular porosity, trace spotty brown stain, occasionally dull yellow fluorescence, faint non to streaming cut, no odor. |

Depth (ft) Descriptions

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| 6720-6750 | SANDSTONE; pate brown to off white, friable to firm, fine to lower medium grained, subrounded to subangular, occasionally white siliceous matrix, occasionally well rounded gray to brown inclusion, predominantly tight with trace poor intergranular porosity, abundant even brown stain, trace dull yellow fluorescence, no cut. |
| 6750-6766 | SANDSTONE; white to very pale brown, firm to friable, fine to very fine grained, subangular to sub rounded, well sorted and consolidated, spotty siliceous matrix, predominantly tight with trace poor to fair intergranular porosity, occasionally moderately to bright yellow gold fluorescence, spotty to even light brown stain, fair streaming cut. |
| 6766-6780 | SANDSTONE; white to light gray, firm to friable, fine grained, subangular, well consolidated moderately well sorted, no to poor visible porosity, abundant black carbonaceous partings and inclusion, no fluorescence stain odor or cut. |
| 6780-6810 | SANDSTONE; white, clean, friable, fine to lower medium grained, subrounded to subangular, moderately well sorted and consolidated, commonly with gray to black mineral inclusion, spotty white siliceous matrix, trace poor rarely fair intergranular porosity. occasionally even light b no stain, moderately to bright yellow fluorescence, faint slow streaming cut. |
| 6810-6840 | SANDSTONE; white to light gray, firm, fine to very fine grained, subangular, well sorted and consolidated, predominantly with fine black mineral inclusion, rarely glauconite, commonly with siliceous matrix, no visible porosity, trace dull yellow fluorescence, weak non streaming cut, no stain or odor. SHALE; dark gray firm, platy, subfissile, occasionally subwaxy, occasionally carbonaceous in part. |

MANCOS 6,842' MD, 6,836' TVD (+423')

| | MARCOS 0,042 MB, 0,030 1 VD (1423) |
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| 6840-6870 | SHALE; dark brown to dark gray, firm to soft, subblocky, fine gritty to silty texture, abundant fine |
| | black carbonaceous inclusion, trace loose COAL. |
| 6870-6900 | SHALE; dark brown to dark gray, occasionally light to medium gray. predominantly with gritty to |
| | silty texture, commonly with black carbonaceous inclusion, trace pale green waxy inclusion, |
| | occasionally pale green, splintery waxy. |
| 6900-6930 | SHALE; dark gray to dark brown, firm to soft, subblocky, fine gritty texture, micro carbonaceous |
| | inclusion, commonly slightly calcareous, trace silty in part. |
| 6930-6960 | SHALE; dark gray to dark brown, soft, subblocky to platy, predominantly . fine gritty texture, |
| | occasionally light gray green subwaxy. |
| 6960-6990 | SHALE; dark gray to gray brown, soft, subblocky, fine gritty texture, micro carbonaceous inclusion, |
| | abundant varicolored cavings. |
| 6990-7020 | SHALE; dark brown to dark gray, soft, subblocky, fine gritty texture, continued as above. |
| | SILTSTONE; light gray, firm to hard, very fine, very well consolidated, trace micro black to red to |
| | green mineral inclusion, calcareous in part, tight throughout, no fluorescence stain odor or cut. |
| 7020-7050 | SHALE; dark gray to dark brown, soft, subblocky to blocky, fine gritty texture occasionally micro |
| | carbonaceous inclusion, trace very thin carbonaceous stringers, commonly slightly calcareous. |
| 7050-7080 | SHALE; brown to dark brown to dark gray, continued as above. |
| 7080-7110 | SHALE; dark gray to dark brown, firm to soft, blocky to subblocky, fine gritty to silty texture, fine |
| | carbonaceous inclusion, occasionally black carbonaceous shale partings, slightly calcareous. |
| 7110-7140 | SHALE; dark brown to dark gray, continued as above, occasionally silty calcareous. |
| 7140-7170 | SHALE; dark gray to dark brown, soft, subblocky, fine gritty to silty texture, fine to micro |
| | carbonaceous inclusion, occasionally black carbonaceous partings, slightly calcareous. |
| 7170-7200 | SHALE; SHALE; dark brown to dark gray, soft to firm, subblocky fine gritty to silty texture, abundant |
| | fine to micro black carbonaceous inclusion, occasionally silty in part, commonly slightly calcareous. |
| 7200-7250 | SHALE; dark brown to dark gray, soft, subblocky to blocky, fine gritty to silty in part, abundant fine |
| | to micro carbonaceous inclusion, trace very thin black carbonaceous inclusion, trace black |
| | carbonaceous partings, calcareous in part. |

Depth (ft) Descriptions

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| 7250-7300 | SHALE; dark brown to dark gray, soft to firm, subblocky fine gritty to silty, fine to micro carbonaceous inclusion, trace thin carbonaceous stringers and partings, commonly slightly calcareous. |
| 7300-7350 | SHALE; continued as above. |
| 7350-7400 | SHALE; dark brown to dark gray, soft to firm, fine gritty to silty texture, fine to micro carbonaceous |
| | inclusion and very fine stringers, slightly calcareous. |

MANCOS 'B' 7,402' MD, 7,394' TVD (-135')

| 7400-7450 | SHALE; dark gray to dark brown, firm to soft, subblocky, finely gritty to silty texture, |
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| | predominantly as above with traces light brown to clear, micro crystal growths, terminated |
| | quartz crystals, possible siderite crystals, possible fracture fill. |
| 7450-7500 | SHALE; dark brown to dark gray firm, subblocky, fine gritty to silty, fine to micro carbonaceous |
| | inclusions. SILTSTONE: light to medium gray, very fine, argillaceous, occasionally with black |
| | mineral inclusions, slightly calcareous, trace siliceous, tight throughout no fluorescence stain odor |
| | or cut. |
| 7500-7550 | SHALE; dark gray to dark brown, continued as above. SILTSTONE; light gray to dirty brown, firm, |
| | very fine, slightly calcareous, predominantly argillaceous with micro black mineral inclusion, trace |
| | dark gray SHALE partings, tight throughout. |
| 7550-7650 | SHALE; gray to medium light gray, firm to soft, fine gritty texture abundant very silty with micro |
| | black mineral inclusion, calcareous tight. |
| 7650-7700 | SHALE; dark gray to dark brown, firm to soft, subblocky, fine gritty texture, occasionally light gray |
| | very silty with black carbonaceous stringers, calcareous in part. |
| 7700-7750 | SHALE; dark gray to dark brown, firm, subblocky, fine gritty texture micro carbonaceous inclusion |
| | and stringers, commonly silty in part, trace sandy, slightly calcareous. |
| 7750-7800 | SHALE; dark brown to dark gray, firm to soft, subblocky, commonly fine gritty to silty texture, trace |
| | light gray SILTSTONE stringers, tight throughout. |
| 7800-7850 | SHALE; dark brown to dark gray, firm to soft, subblocky, fine gritty texture occasionally silty in part, |
| | trace loose SANDSTONE clusters, fine grained tight, calcareous IP. |
| 7850-7900 | SHALE; dark gray to dark brown, soft, blocky to platy, commonly with micro carbonaceous |
| | inclusion, trace silty in part, calcareous in part. |
| 7900-7950 | SHALE; dark brown to dark gray, soft, subblocky to blocky, occasionally micro gritty texture, micro |
| | carbonaceous inclusion, calcareous in part. |
| 7950-8000 | SHALE, continued as above, predominantly very soft, trace soft thin platy with bitumen striations. |
| 8000-8050 | SHALE; dark brown to dark gray, soft, subblocky, fine to micro gritty texture, micro black |
| | carbonaceous inclusion, trace light gray SILTSTONE stringers, rarely sandy, tight throughout. |
| 8050-8100 | SHALE; dark gray to dark brown, firm to soft, splintery to subblocky, commonly with fine to micro |
| | carbonaceous inclusions, trace silty in part, trace thin SILTSTONE stringers. |
| 8100-8150 | SHALE; dark gray to dark brown, firm to soft, predominantly with micro carbonaceous inclusion, |
| | trace light gray SILTSTONE stringers, slightly calcareous. |
| 8150-8200 | SHALE; dark gray to dark brown, soft, platy to subblocky, commonly . fine to micro carbonaceous |
| | inclusion, occasionally silty in part, trace polished thin platy fragments with bit striations. |
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LOWER BLUE GATE 8,185' MD, 8,183' TVD (-924')

| 8200-8250 | SHALE; dark gray to dark brown, firm to soft, blocky to subblocky, occasionally fine to micro |
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| | carbonaceous inclusion, trace micro bit striations. |
| 8250-8300 | SHALE; dark gray to dark brown to black, continued as above, trace medium green to pale green, soft, platy subfissile, waxy fluorescence, possible Bentonite. |
| 8300-8350 | SHALE; dark gray to dark brown, soft to firm, abundant very fine to micro carbonaceous inclusion and thin stringers, occasionally silty texture, trace light green, waxy with dull yellow mineral fluorescence. |

Depth (ft) Descriptions

| Depth (It) | Descriptions |
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| 8350-8400 | SHALE; continued as above, trace Inoceramous fragments, abundant bit striations. SANDSTONE; |
| | trace only (<2%), white, firm, fine to very fine grained, subrounded to subangular, well sorted and |
| | consolidated, spotty milky white calcareous matrix, occasionally dirty gray argillaceous with dark |
| | gray shale stringers, trace micro disseminated pyrite, no visible porosity, no fluorescence stain odor |
| | or cut |
| 8400-8450 | SHALE; dark brown to gray to dirty brown, firm to hard, predominantly very soft, commonly grading |
| | to argillaceous SANDSTONE, commonly mottled texture with coarse dark gray carbonaceous |
| | inclusion, no visible porosity, calcareous, rare trace Inoceramous. |
| 8450-8500 | SHALE; dark brown to dark gray to brown, firm to hard, platy to subblocky, predominantly sandy in |
| | part, occasionally thin white calcareous stringers, commonly with fine to micro carbonaceous |
| | inclusion. |
| 8500-8550 | SHALE; dark brown to dark gray, firm, subblocky, fine gritty to silty texture, predominantly with fine |
| | to micro carbonaceous inclusion, trace fissile with very thin carbonaceous stringers, predominantly |
| | calcareous. |
| 8550-8600 | SHALE; dark brown to dark gray, firm to soft, subblocky, commonly fine gritty to silty texture, |
| | calcareous in part, predominantly with micro carbonaceous inclusion and occasionally stringers. |
| 9600 9650 | 7 7 |
| 8600-8650 | SHALE; dark brown to dark gray, soft to firm, subblocky, abundant fine to micro carbonaceous |
| 0050 0700 | inclusion, calcareous in part. |
| 8650-8700 | SHALE; dark gray to dark brown, soft, subblocky to platy, fine to micro carbonaceous inclusion, |
| 0700 0750 | trace subfissile very carbonaceous, calcareous in part. |
| 8700-8750 | SHALE; dark gray to medium brown, soft, subblocky, fine gritty to silty texture, abundant scattered |
| 0750 0000 | fine black carbonaceous material, calcareous in part. |
| 8750-8800 | SHALE; dark gray, firm to soft, blocky to subblocky, abundant black carbonaceous stringers and |
| 2000 2050 | inclusion, trace black very carbonaceous, trace loose COAL. |
| 8800-8850 | SHALE; dark by, firm, blocky to subblocky, predominantly carbonaceous, trace black very |
| 2052 2022 | carbonaceous, trace loose pyrite. |
| 8850-8900 | SHALE; dark gray, firm to soft, subblocky, occasionally platy subfissile, predominantly |
| 2222 2222 | carbonaceous occasionally with fine gritty texture, abundant bitumen striations. |
| 8900-8950 | SHALE; dark gray, soft to firm, subblocky, fine to micro gritty texture, abundant micro |
| 2052 2022 | carbonaceous inclusion and occasionally thin black carbonaceous stringers. |
| 8950-9000 | SHALE; dark gray, soft to firm, subblocky, occasionally platy, subfissile, predominantly |
| | carbonaceous. |
| 9000-9050 | SHALE; dark gray to dark brown, continued as above, commonly slightly calcareous. |
| 9050-9100 | SHALE; dark gray, soft to firm, subblocky, occasionally with fine gritty texture. commonly with fine |
| | black carbonaceous inclusion and stringers, calcareous, rarely with thin white calcite stringers. |
| 9100-9150 | SHALE; continued as above. |
| 9150-9200 | SHALE; dark gray, occasionally dark brown, firm to soft, subblocky, occasionally subfissile . fine |
| | gritty texture, abundant micro black carbonaceous inclusion and occasionally stringers, slightly |
| | calcareous. |
| 9200-9250 | SHALE; dark gray to dark brown, soft, subblocky, predominantly carbonaceous in part, continued |
| | as above. trace light gray silty stringers. |
| 9250-9300 | SHALE; dark gray, soft to firm, subblocky to platy predominantly carbonaceous with very fine |
| | carbonaceous inclusion and thin stringers. |
| 9300-9350 | SHALE; dark gray, soft to firm continued as above, predominantly carbonaceous, trace light green |
| | splintery, waxy. |
| 9350-9400 | SHALE; dark gray, soft, subblocky, fine carbonaceous inclusion, occasionally silty in part with very |
| | fine light gray SILTSTONE. |
| 9400-9450 | SHALE; dark gray, soft, subblocky, predominantly carbonaceous with fine to micro carbonaceous |
| 9400-9450 | TOTIALE, Udik Utav. Sult. Subblocky, biedottilliantiy carbonaceous wiin nne to inicio carbonaceous - i |
| 9400-9450 | inclusion, occasionally carbonaceous stringers, trace silty in part, commonly with bitumen striations. |

Depth (ft) Descriptions

| Depth (ft) | Descriptions | | | |
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| 9450-9500 | SHALE; dark gray, firm to soft, subblocky, commonly with fine gritty texture silty in part, commonly with fine to micro carbonaceous inclusion, trace pale green clay inclusion. SANDSTONE; dirty gray to white, firm to hard, very fine grained to silty, abundant black to dark gray SHALE partings and stringers, tight throughout. | | | |
| 9500-9550 | SHALE; continued as above, occasionally light green, waxy, commonly very silty to sandy, calcareous in part. SILTSTONE; white to dirty brown firm, very fine, commonly argillaceous with carbonaceous SHALE partings and stringers, slightly calcareous, tight throughout. | | | |
| 9550-9600 | SHALE; dark gray to dark brown, firm, subblocky, carbonaceous, calcareous in part. SANDSTONE; pale to dirty brown to off white, firm to friable, fine to very fine grained, subrounded to subangular, moderately well sorted and consolidated, abundant black carbonaceous stringers and partings, calcareous, trace scattered very fine black carbonaceous debris and brown mineral inclusion, tight throughout | | | |
| 9600-9650 | SHALE; dark gray to dark brown, firm to soft, subblocky to platy, predominantly carbonaceous, occasionally subfissile, silty to sandy, calcareous in part. SANDSTONE; dirty brown to light gray, firm. argillaceous, tight, continued as above. | | | |
| 9650-9700 | SHALE; dark gray to dark brown, firm to soft, platy to blocky, occasionally subfissile, predominantly silty to sandy with fine black carbonaceous inclusion and stringers, calcareous in part, SANDSTONE; pale brown to light gray, firm, fine very grained, argillaceous with abundant black SHALE partings and stringers, trace very fine disseminated pyrite, slightly calcareous, tight throughout. | | | |
| 9700-9750 | SHALE; dark gray to dark brown, firm to soft, subblocky, commonly silty to sandy in part, abundant carbonaceous material, slightly calcareous, SANDSTONE; off white to light gray to light brown, firm, very fine grained to silty, argillaceous in part with dl gray shale stringers and partings, commonly with fine black mineral inclusion, tight throughout. | | | |
| 9750-9800 | SHALE; continued as above, predominantly silty to sandy. SANDSTONE; light gray to light brown to off white, firm to friable, very fine grained to silty, argillaceous with abundant carbonaceous inclusion, stringers and partings, calcareous in part, no visible porosity no fluorescence stain odor or cut. | | | |
| 9800-9850 | SHALE; dark gray, soft to firm, subblocky, predominantly with fine gritty to silty texture, sandy in part, carbonaceous inclusion, slightly calcareous. SHALE; light gray to dirty brown, continued as above, tight throughout, no fluorescence stain odor or cut. | | | |
| 9850-9900 | SHALE; dark gray, soft, blocky, decrease amount silty to sandy texture, trace subfissile, predominantly carbonaceous. SANDSTONE; light to medium gray, firm, very fine grained to silty, argillaceous, tight. | | | |
| 9900-9950 | SHALE; dark gray to dark brown, soft to firm, subblocky, occasionally micro to fine gritty to silty texture, commonly with micro carbonaceous inclusion, trace light gray SILTSTONE stringers. | | | |
| 9950-10000 | SHALE; dark gray, firm to soft, subblocky, occasionally micro granular texture, trace white crystalline calcite stringers, trace light gray SANDSTONE stringers, trace fossil fragments variety inoc, predominantly carbonaceous, calcareous in part. | | | |
| 10000-10050 | | | | |
| 10050-10100 | SHALE; dark gray, firm to soft, subblocky to platy, trace fissile, commonly fine granular to silty texture, commonly carbonaceous in part, occasionally calcareous in part, trace sandy, trace inoc. SANDSTONE; continued as above, tight, no fluorescence stain odor or cut | | | |
| 10100-10150 | SHALE; dark gray to black, firm to soft, subblocky, fine gritty to silty texture, commonly slightly calcareous, possibly dolomitic in part, predominantly with fine to micro carbonaceous inclusions. | | | |
| 10150-10200 | SHALE; dark gray to black, firm to soft, blocky to subblocky, abundant fine to micro carbonaceous inclusion, occasionally gritty to silty texture. | | | |
| 10200-10250 | SHALE; dark gray, soft, subblocky, carbonaceous, continued as above. | | | |

Depth (ft) Descriptions

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| 10250-10300 | SHALE; dark gray, firm to soft, blocky, fine to micro carbonaceous inclusion, trace light green, soft | | |
| | subwaxy. | | |
| 10300-10350 | SHALE; dark gray to black, firm to soft, subblocky, occasionally subfissile, predominantly very | | |
| | carbonaceous micro carbonaceous inclusion. | | |
| 10350-10380 | SHALE; dark gray to black, soft to firm, blocky, carbonaceous, trace PYR, rarely loose COAL. | | |
| 10380-10410 | SHALE; black to dark gray continued as above. | | |
| 10410-10440 | SHALE; dark gray to very dark brown, firm to soft, blocky, predominantly with micro to fine gritty | | |
| | texture, abundant micro carbonaceous inclusion, trace light green, platy, waxy. | | |

MANCOS SHOW ZONE 10,458' MD, 10,442' TVD (-3,183')

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| 10440-10470 | SHALE; dark gray to black, firm, blocky to subblocky, good to micro gritty texture, commonly | | | | |
| | carbonaceous, trace silty in part, trace light green to gray green, soft. platy, waxy. | | | | |
| 10470-10500 | SHALE; dark gray to black, firm to soft, subblocky, predominantly with fine gritty to silty texture, | | | | |
| abundant black carbonaceous stringers and inclusion, trace pyrite, trace inoc. | | | | | |
| 10500-10530 SHALE; dark gray to black, soft, platy to blocky, predominantly carbonaceous, trace to | | | | | |
| | SILTSTONE stringers. BENTONITE; light gray to brown to gray green, soft, platy, splintery, | | | | |
| | subwaxy, occasionally light brown mineral increase, trace faint yellow gold mineral fluorescence. | | | | |
| 10530-10560 | SHALE; dark gray to black, soft, subblocky predominantly fine silty to gritty texture, predominantly | | | | |
| | carbonaceous with light brown to gray SILTSTONE stringers. Bentonite: trace only continued as | | | | |
| | above. | | | | |
| 10560-10590 | SHALE; dark gray to black, soft, carbonaceous, commonly silty in part, trace BENTONITE. | | | | |
| | SANDSTONE; trace only, light brown, friable, argillaceous with black carbonaceous stringers, fine | | | | |
| | grained to silty, tight | | | | |
| 10590-10620 | SHALE; dark gray to black, firm to soft, commonly silty to sandy in part, abundant b to micro | | | | |
| | carbonaceous inclusion, slightly calcareous, trace BENTONITE. | | | | |
| 10620-10650 | SHALE; dark gray to black to dark brown, soft to firm, subblocky, predominantly with fine to micro | | | | |
| | carbonaceous inclusion, commonly silty to sandy in part trace dirty brown SANDSTONE stringers. | | | | |
| | | | | | |
| 10650-10680 | SHALE; dark gray to black, soft to firm, very fine silty to sandy texture, predominantly with micro | | | | |
| | carbonaceous inclusion, commonly very sandy grading to argillaceous SANDSTONE, tight, rarely | | | | |
| | glauconite. | | | | |
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DAKOTA SILT 10,691' MD, 10,674' TVD, (- 3.415')

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| SHALE; dark grey to dark brown, firm to soft, predominantly very sandy grading to argillaceous SANDSTONE, abundant black carbonaceous inclusion and stringers, SANDSTONE; gray to dark gray, firm to hard, fine to very fine grained, very argillaceous commonly grading to sandy SHALE, poor sorted, well consolidated, slightly calcareous, subangular, rarely glauconite tight. |
| SANDSTONE; medium to dark gray, firm, fine to lower fine grained, subrounded to subangular, moderately well sorted, well consolidated, predominantly very argillaceous with dark gray clay. shale fill, slightly calcareous trace very fine glauconite, tight throughout no fluorescence stain odor or cut. SHALE; soft continued as above. |
| SHALE; dark gray to black, soft to firm, abundant fine gritty to silty texture, commonly silty to sandy in part, trace glauconite, slightly calcareous. SANDSTONE; medium to dark gray, argillaceous, glauconite, tight, continued as above. |
| SHALE; dark gray to black, soft, platy to blocky, commonly splintery subfissile, trace light green subwaxy. BENTONITE; very color light gray to pale green to light brown trace white, soft, platy, subfissile to fissile, subwaxy texture, trace copper color flakes, rarely varigated, abundant moderately bright orange to gold mineral fluorescence. |
| |

Depth (ft) Descriptions

DAKOTA 10,790' MD, 10,773' TVD (-3,514')

| | 274(31) (10) (10) (10) (10) (10) |
|-------------|--|
| 10800-10820 | SANDSTONE; light to medium gray, firm to hard, fine grained, subrounded to subangular, well |
| | sorted and consolidated, predominantly siliceous, occasionally with black carbonaceous stringers, |
| | rarely glauconite, commonly dark gray argillaceous, tight throughout no fluorescence stain odor or |
| | cut. SHALE; dark gray to black, firm to soft, platy, subfissile to subblocky, commonly silty to sandy, |
| | occasionally carbonaceous stringers trace COAL inclusion and stringers. BENTONITE; white to |
| | light brown to gray, soft, platy, subwaxy. |
| 10820-10840 | SANDSTONE; light brown to gray to off white, firm to hard, fine to upper fine grained, subangular to |
| | subrounded, well consolidated, moderately well sorted, siliceous, trace glauconite, trace |
| | disseminated pyrite, occasionally fine brown to dark gray mineral inclusion, no to poor visible |
| | porosity no fluorescence stain odor or cut. SHALE; dark gray to black, soft, platy, splintery, |
| | subfissile to fissile, predominantly carbonaceous, trace assoc COAL. BENTONITE; varicolored |
| | white to gray to brown, soft, platy, subwaxy, trace brown mineral inclusion, dull yellow mineral |
| | fluorescence. |
| 10840-10860 | SANDSTONE; light brown to light gray, firm to hard, fine to lower fine grained, subangular to sub |
| | rounded, siliceous with brown to gray mineral inclusion, predominantly tight with trace poor |
| | intergranular porosity, no fluorescence stain odor or cut. SHALE continued as above. |
| 10860-10880 | SANDSTONE; off white to very pale brown, firm to friable, very fine to upper fine grained, |
| | subrounded to well rounded, moderately well to poor sorted, well consolidated, occasionally brown |
| | mineral inclusions, predominantly siliceous, predominantly tight with trace poor intergranular |
| | porosity, no fluorescence stain odor or cut. SHALE; dark gray to black, soft, splintery fissile, |
| | predominantly carbonaceous in part, trace light gray waxy, trace COAL. |
| 10880-10900 | SANDSTONE; light gray to off white to clear, predominantly unconsolidated, fine to coarse grained, |
| | well rounded, frost to clear, quartz grains, occasionally well consolidated, fine grained, subangular, |
| | no calcareous, tight clusters, abundant very coarse angular CHERT fragments, inferred porosity, |
| | no visible porosity, trace spotty, very light brown stain, no fluorescence odor or cut. CHERT; gray to |
| | white to brown to dark brown, coarse fragments, sharp semi opaque to opaque. |
| | |
| | |

CEDAR MOUNTAIN 10.904' MD, 10.887' TVD (-3628')

| | CEDAR MOUNTAIN 10,904 MD, 10,007 1 VD (-3020) |
|-------------|--|
| 10900-10920 | SHALE; very pale blue green to white, soft, platy, occasionally subwaxy, abundant black, splintery fissile, carbonaceous, trace COAL, black vitreous blocky. SANDSTONE; continued as above, trace very good grained pebble fragments, no fluorescence stain odor or cut. BENTONITE; light gray, soft, platy, waxy. |
| 10920-10940 | SHALE; pale blue green to green to white, soft. platy, continued as above. SANDSTONE; pale green to white, friable, very fine grained, subangular to subrounded, well sorted and consolidated, clean, siliceous, tight. |
| 10940-10960 | SANDSTONE; clear to off white, unconsolidated, fine to upper medium grained, frost to clear well rounded to angular loose quartz grains, inferred porosity, abundant loose white, chalky matrix material, no fluorescence stain odor or cut |
| 10960-10980 | LIMESTONE; white to very pale brown, firm occasionally hard, blocky, fine to microcrystalline, tight. SHALE; pale green, soft, platy, subwaxy, rarely varigated. |
| 10980-11000 | SHALE; distinct change, pale red brown to red orange, to off white to light green, soft to firm, platy, occasionally sandy in part, trace varigated, |

BUCKHORN CONGLOMERATE 11,021' MD 11,013' TVD (-3754')

| 11000-11020 | SHALE; moderate to bright orange red to red brown, soft, platy, occasionally very fine silty, |
|-------------|---|
| | abundant black, splintery to blocky, very carbonaceous. CHERT; white to clear to orange, sharp, |
| | semi opaque to opaque. |
| | |

Depth (ft) Descriptions

MORRISON 11,030' MD, 11,013' TVD (-3,754')

| | MONNION 11,000 MD, 11,010 14D (-5,154) | | | |
|--|--|--|--|--|
| 11020-11040 | SHALE; red orange to pale green to white, soft to firm, platy, occasionally sandy in part, abundant black fissile, splintery carbonaceous. | | | |
| 11040-11060 | SHALE, varicolored, red orange to pale green, to pale purple to white, soft, platy, occasionally | | | |
| 111040-11000 | sandy in part, rarely varigated. | | | |
| 11060-11080 | SHALE; varicolored, pale green to pale purple to red orange to light gray, soft to firm, platy, | | | |
| 111000-11000 | occasionally splintery, occasionally black carbonaceous, trace sandy in part, trace loose pyrite. | | | |
| 11080-11100 SHALE; varicolored, red orange to pale green to purple, occasionally white siliceo | | | | |
| 111000-11100 | trace black, blocky carbonaceous, slightly calcareous. | | | |
| 11100-11120 | SHALE; red orange to red brown to pale green to pale purple, soft, platy, occasionally fine silty to | | | |
| 11100 11120 | sandy in part, trace CHERT; white opaque, rarely broken coarse grained quartz pebble. | | | |
| 11120-11140 | SHALE; distinct change, white to light gray, trace pale purple, firm to soft, platy, predominantly | | | |
| 111120 111110 | siliceous, occasionally calcareous. SANDSTONE; white, to light gray to pale purple, firm to friable, | | | |
| | very fine grained to silty, well sorted and consolidated, commonly grading to sandy SHALE, spotty | | | |
| | slightly calcareous matrix, tight, rarely CHERT. | | | |
| 11140-11160 | SANDSTONE; white, clean, firm to friable, very fine grained to silty, well sorted and consolidated, | | | |
| milky white calcareous matrix, no visible porosity, no fluorescence stain odor or cu | | | | |
| | green to white, soft, platy, occasionally siliceous, occasionally black very carbonaceous. | | | |
| 11160-11180 | SANDSTONE; white, clean, very fine grained to silty, calcareous, continued as above. SHALE; | | | |
| white to very pale green, platy, soft, siliceous in part, occasionally sandy in part, occ | | | | |
| | carbonaceous. | | | |
| 11180-11200 | SHALE; white to very pale green, soft, platy, occasionally siliceous, occasionally black | | | |
| | carbonaceous. SANDSTONE; white, clean, very fine grained, platy calcareous TT. LIMESTONE; | | | |
| | very light brown to white, firm to hard, blocky, fine to microcrystalline, tight throughout. | | | |
| | Tory ng. it shows to time, time to hard, shootly, time to misroory statistic, agric alreagned. | | | |
| 11200-11230 | SANDSTONE; white to very pale green, firm to friable, very fine grained, subangular, well sorted | | | |
| | and consolidated, slightly calcareous, tight. SHALE; very pale green to white, soft, platy, | | | |
| | occasionally black carbonaceous, trace pyrite, LIMESTONE; brown to dark brown, hard, blocky fine | | | |
| | to micro crystalline, predominantly dense, tight throughout. | | | |
| 11230-11260 | SANDSTONE; white, clean, very fine grained to silty, well sorted and consolidated, subangular, | | | |
| | calcareous matrix, tight. SHALE; very pale green to light gray, soft, platy, occasionally siliceous in | | | |
| | part, occasionally calcareous. | | | |
| 11260-11290 | SHALE; very pale green to light gray to white, soft, platy, commonly black subfissile, splintery | | | |
| carbonaceous, SANDSTONE; pale green to white, friable to firm, very fine grained to | | | | |
| | subangular, predominantly calcareous, clean, tight | | | |
| 11290-11320 | SANDSTONE; white to pale green, clean, firm to friable, fine to lower fine grained, subrounded to | | | |
| | sub angular, well consolidated, moderately well to poor sorted, calcareous matrix, occasionally | | | |
| | brown mineral inclusion, spotty white calcareous matrix, tight throughout, no fluorescence stain | | | |
| | odor or cut. SHALE; pale green, to white, continued as above, occasionally sandy in part. | | | |
| 11320-11350 | SHALE; red orange to pale green to light brown, soft, platy, subfissile to subblocky, occasionally | | | |
| | sandy in part, abundant black, firm, splintery, fissile, carbonaceous. SANDSTONE; continued as | | | |
| | above, tight throughout, no fluorescence stain odor or cut. | | | |
| | | | | |

SALT WASH 11,369' MD, 11,351' TVD (-4,092')

| 11350-11380 | SANDSTONE; white to light gray, firm, fine grained, subangular, calcareous in part, occasionally |
|-------------|--|
| | milky white continued as above, no visible porosity, no fluorescence stain odor or cut. SHALE; |
| | predominantly pale green, platy, continued as above. |

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|---|--|--|--|--|--|
| SHALE; black to dark gray, firm to soft, splintery, fissile to subfissile very carbonaceous, abundant | | | | | |
| red orange to red brown, subblocky, silty to sandy in part, slightly calcareous. SANDSTONE; pale | | | | | |
| green to white, firm, fine grained, subrounded, well consolidated, moderately well sorted, | | | | | |
| calcareous, tight. | | | | | |
| SHALE; pale green to red orange to red brown to light purple to white, soft, platy, commonly black, | | | | | |
| splintery, fissile, carbonaceous. SANDSTONE; white to pale green, fine grained, calcareous, tight, | | | | | |
| continued as above. | | | | | |
| SHALE; red orange to black to pale green, platy to subblocky, occasionally very fine silty, | | | | | |
| commonly splintery, fissile carbonaceous, SANDSTONE; white, clean, fine grained, subangular to | | | | | |
| sub rounded, well consolidated and sorted, calcareous, tight. | | | | | |
| 0-11500 SHALE; light orange to pale green to red orange, soft, platy, occasionally fine silty to sandy, | | | | | |
| calcareous in part, abundant black, splintery, carbonaceous, trace large flakes BIO. | | | | | |
| SHALE; very color, continued as above. SANDSTONE; white to pale gray, friable to firm, fine to | | | | | |
| lower medium grained, subrounded to well rounded, poor sorted, moderately well consolidated | | | | | |
| spotty calcareous matrix, no visible porosity, no fluorescence stain odor or cut. | | | | | |
| CLAYSTONE; white to very light brown, firm, blocky, very calcareous grading to LIMESTONE, ti | | | | | |
| SANDSTONE, light gray to very light brown, firm to friable, fine grained to silty, calcareous, tight. | | | | | |
| SHALE; continued as above. | | | | | |
| SHALE; red orange to pale orange to pale green to white, soft, platy, calcareous, occasionally silty | | | | | |
| to soft in part, commonly black, fissile, splintery, carbonaceous. | | | | | |
| SHALE; pale green to red orange to pale orange to black to white, continued as above | | | | | |
| SHALE; moderately distinct change, light orange to red orange, soft, platy, occasionally silty, | | | | | |
| calcareous in part, | | | | | |
| | | | | | |

SUMMERVILLE 11,670' MD, 11,652' TVD (-4,393')

| 11650-11680 | SHALE; bright red orange to pale orange, platy, commonly silty to sandy in part. SANDSTONE, | | | |
|-------------|---|--|--|--|
| | milky white, clean, firm to hard, fine to upper fine grained, subrounded, well sorted and | | | |
| | consolidated, spotty white calcareous matrix, tight, no fluorescence stain odor or cut. | | | |
| 11680-11710 | SHALE; pale orange to light red orange to red brown to pale green, soft to firm, platy, calcareous, | | | |
| | occasionally black carbonaceous. SANDSTONE continued as above | | | |

CURTIS 11,704' MD, 11,685' TVD (-4,426')

| 11710-11740 | SANDSTONE; very light gray to white to very light brown, firm to friable, fine to lower fine grained, sub angular to sub rounded, spotty calcareous matrix, abundant well rounded upper fine grained dark gray to brown argillaceous grains, moderately well to poor sorted, well consolidated, no visible porosity no fluorescence stain odor or cut. SHALE; red orange to red brown to black, continued as above. |
|-------------|---|
| 11740-11770 | SANDSTONE; white to very light gray to pale green, friable, upper fine to very fine grained, subrounded, abundant well rounded dark gray, medium to upper medium grained, inclusion, occasionally glauconite pellet, milky white calcareous matrix, no visible porosity, N FSOC. SHALE; red brown to red orange to pale green, platy, commonly black, fissile, splintery, carbonaceous. |

MOAB TONGUE 11,770' MD, 11,751' TVD (-4,492')

| 11770-11800 | O SHALE; dark gray to black, firm, platy, splintery t, fissile carbonaceous, occasionally sandy in part, | | | | |
|-------------|--|--|--|--|--|
| | occasionally light gray, soft waxy, abundant continued as above. SANDSTONE; continued as | | | | |
| | above trace lower medium grained, poor sorted subangular, tight throughout. | | | | |
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| | | | | | |
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Depth (ft) Descriptions

ENTRADA 11,784' MD, 11,765' TVD (-4,506')

| | ENTRADA 11,784 MD, 11,785 TVD (-4,506) |
|--------------|---|
| 11800-11830 | Poor sample, abundant varicolored orange to red orange to pale green to black, splintery SHALE |
| | cavings. SANDSTONE; trace only, very pale orange to white. very friable, fine grained, subangular, |
| | moderately well sorted and consolidated, abundant loose clear well rounded quartz grains, trace |
| | poor intergranular porosity, no fluorescence stain odor or cut |
| 11830-11850 | Predominately very color SHALE cavings, continued as above. SANDSTONE trace only, very pale |
| | orange, very friable, upper fine to very fine grained, subangular, poor sorted, poor consolidated, |
| i | commonly unconsolidated subangular to well rounded lower coarse grained quartz grains, spotty |
| | slightly calcareous matrix, trace micro micaceous (biotite), no visible porosity, no fluorescence stain |
| 11850-11870 | SANDSTONE; white to very pale orange, friable, upper fine to fine grained, subangular to angular, |
| | poor sorted, occasionally with angular dark gray inclusion, slightly calcareous matrix to siliceous, |
| | occasionally loose upper medium grained, clear quartz grains, trace biotite, abundant milky white |
| | bitumen flour, no to poor visible porosity, no fluorescence stain odor or cut. SHALE; predominantly |
| | black, fissile, splintery, occasionally sandy in part, abundant varicolored cavings. |
| 11870-11890 | SANDSTONE, continued as above, abundant milky white bitumen flour, trace thin platy micaceous |
| 111070 11000 | stringers, tight throughout. SHALE, predominantly black and varicolored cavings, trace |
| | BENTONITE; light green, soft, waxy, platy. |
| 11890-11910 | SHALE; black to dark gray, firm to soft, splintery, fissile, occasionally fine gritty texture, |
| 11090-11910 | predominantly carbonaceous in part, occasionally red orange to pale green, probable cavings. |
| | SANDSTONE; trace only, white to pale orange to very light gray, friable, subangular to |
| | |
| | subrounded, slightly calcareous, occasionally loose medium grained, well rounded, quartz grains, |
| 14040 44000 | no fluorescence stain odor or cut. |
| 11910-11930 | SANDSTONE; unconsolidated, clear to very pale orange, well rounded to subangular, frost to |
| | clear, quartz grains, abundant milky white to pale orange bitumen flour, no fluorescence stain odor |
| | or cut. SHALE; varicolored continued as above, predominantly black cavings. |
| 11930-11950 | SANDSTONE; off white to pale orange occasionally very pale green, friable, fine to upper fine |
| | grained, subangular to subrounded, moderately well to poor sorted, commonly unconsolidated fine |
| | to medium grained, subangular to subrounded quartz grains, spotty slightly calcareous matrix, no |
| | to poor visible porosity no fluorescence stain odor or cut. SHALE, black to dark gray, firm, |
| | splintery, fissile, carbonaceous, commonly varicolored red orange to red brown to pale green, |
| | occasionally soft splintery waxy. |
| 11950-11970 | SHALE; distinct change, white to very pale green, soft, very splintery, subfissile, subwaxy with |
| | scattered thin black platy mineral inclusions, possible carbonaceous material trace biotite. |
| 11970-11990 | SANDSTONE; very pale orange to orange pink to white, friable to firm, fine grained, subangular, |
| | moderately well sorted, slightly calcareous, commonly unconsolidated medium grained, |
| | subrounded to well rounded, light orange to white to clear, occasionally frost quartz grains, no |
| | visible porosity, no fluorescence stain odor or cut. SHALE; black to dark gray, fissile, |
| | carbonaceous, commonly varicolored red orange to red brown, occasionally white, very splintery |
| | continued as above. |
| 11990-12010 | SHALE; dark gray to black, firm, subblocky to platy, abundant fissile, splintery, carbonaceous, |
| | abundant varicolored red orange to brown to pale green. SANDSTONE; light gray, firm, fine |
| | grained to silty, fine grained, subangular, well consolidated and sorted, commonly unconsolidated |
| | fine to medium grained well rounded quartz grains, no visible porosity, no fluorescence stain odor |
| | or cut. |
| 12010-12030 | SANDSTONE; very pale orange to pale green, very friable, fine to very fine grained, subrounded, |
| | slightly to non calcareous, abundant pale orange bitumen flour, trace unconsolidated, no |
| | fluorescence stain odor or cut. SHALE; black to red orange to red brown, continued as above. |
| 12030-12050 | SANDSTONE; milky white to clear, very friable, upper fine to fine grained, subangular, moderately |
| 12000-12000 | well to poor sorted, slightly calcareous, no to poor intergranular pot, trace gray mineral inclusion, |
| | abundant milky white bitumen flour, no fluorescence stain odor or cut. SHALE; black, fissile, very |
| | <u> </u> |
| | carbonaceous, commonly red orange. platy. |

Depth (ft) Descriptions

| 12 | 050-12070 | SILTSTONE; distinct change, pale red orange, friable to firm, very fine occasionally fine very sandy | | | | |
|----|--|--|--|--|--|--|
| | spotty white calcareous matrix, occasionally grading to varigated CLAYSTONE, tight through | | | | | |
| | | SHALE and SANDSTONE continued as above, tight throughout. | | | | |

CARMEL 12,062' MD, 12,043' TVD (-4,784')

| CARMEL 12,062° MD, 12,043° TVD (-4,784°) |
|---|
| SANDSTONE; white to light gray, firm, fine grained to very fine grained, subrounded to subangular well sorted and consolidated, occasionally dark brown mineral inclusion, slightly calcareous, trace |
| loose well rounded quartz grains, no visible porosity, no fluorescence stain odor or cut. SHALE; |
| light to medium gray, firm to soft, blocky, occasionally very fine sandy in part, commonly red orange |
| to pale green continued as above. SILTSTONE; red orange to pale orange continued as above. |
| to pale green continued as above. Sich Shorte, red brange to pale brange continued as above. |
| SANDSTONE; light to medium gray, firm, very fine grained to silty, well sorted and consolidated, |
| argillaceous in part, predominantly calcareous, occasionally dark gray art stringers, tight |
| throughout. SHALE; light to medium gray, firm, blocky, calcareous, trace micro micaceous, |
| occasionally silty in part, occasionally pale green, trace bright green possible glauconite. |
| SHALE; gray to medium gray, firm, blocky, occasionally pale green, silty to sandy in part, |
| calcareous. SANDSTONE; white to pale green, occasionally very pale orange, friable, fine |
| grained, subangular slightly calcareous, tight. |
| SHALE; light to medium gray, firm to soft, subblocky, calcareous, occasionally micro mica, (biotite), |
| trace silty to sandy. SANDSTONE; pale orange to red orange occasionally white, friable, fine |
| grained, subangular to subrounded, moderately well consolidated and sorted, spotty white |
| calcareous matrix, no to poor visible porosity, no fluorescence stain odor or cut. |
| SANDSTONE; milky white to pale green to pale orange, fine to very fine grained, subrounded to |
| subangular, calcareous, no visible porosity, trace loose biotite flakes, abundant milky white bitumen |
| flour no fluorescence stain odor or cut. SHALE; medium gray to dark gray to black, firm to soft, |
| fissile, carbonaceous. BENTONITE; pale green to white, soft, platy, subfissile, subwaxy. |
| SANDSTONE; pale orange to white to clear, fine to very fine grained, very friable, subrounded, well |
| sorted and consolidated, commonly with brown to orange mineral inclusion, predominantly |
| siliceous, non calcareous, abundant pale orange to milky white bitumen flour, no visible porosity no |
| fluorescence stain odor or cut. SHALE; red orange to red brown to pale green, soft, platy, |
| occasionally black carbonaceous. |
| |

KAYENTA 12,184' MD, 12,165' TVD (-4,906')

| 12170-12190 | SHALE; very distinct change, red orange to orange, soft platy, predominantly very silty, slightly to |
|-------------|--|
| | no calcareous, rarely white SANDSTONE stringers. |
| 12190-12210 | SANDSTONE; pale orange, friable, fine to very fine grained, subangular to sub rounded, well |
| | consolidated and sorted, non calcareous, occasionally with orange SHALE partings. SHALE; red |
| | orange, continued as above. |
| 12210-12230 | SANDSTONE; white to pale orange, very friable, fine to very fine grained; subangular, well sorted, |
| | no visible porosity, abundant milky white bitumen flour, no fluorescence stain odor or cut. |
| 12230-12250 | SANDSTONE; very pale orange to milky white to clear, friable, fine to very fine grained, |
| | subangular, moderately well sorted, non calcareous, abundant milky white bitumen flour, no visible |
| | porosity, no fluorescence stain odor or cut. SHALE; pale green to pale orange to red orange, soft, |
| | platy, occasionally silty in part, occasionally splintery waxy, abundant black carbonaceous. |
| | |

WINGATE 11,258' MD, 12,239' TVD (-4,980')

| | , | | | |
|-------------|---|--|--|--|
| 12250-12270 | Poor sample, predominantly black to red orange to green, cavings. SANDSTONE; pale orange, | | | |
| | friable, fine to very fine grained, subangular, trace loose sub rounded quartz grains, no to poor | | | |
| | visible porosity, inferred porosity from ROP no fluorescence stain odor or cut. | | | |

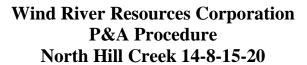
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|-----------------------|---|
| 12270-12290 | SANDSTONE; pale orange to white, friable, fine to very fine grained, subrounded, occasionally subangular, well sorted, trace poor sorted, trace Inoceramous, fine grained quartz grains, no visible porosity, no fluorescence stain odor or cut. SHALE 80 to 90 % black and varicolored SHALE cavings. |
| 12290-12310 | SANDSTONE; pale orange; friable, fine to very fine grained, subangular, moderately well sorted and consolidated, trace loose medium grained well rounded quartz grains, slightly to non calcareous, no visible porosity, no fluorescence stain odor or cut, 90% black and varicolored SHALE cavings. |
| 12310-12330 | SANDSTONE; very pale orange, occasionally white to clear, friable, fine grained, subangular, non calcareous, tight, no fluorescence stain odor or cut, predominantly SHALE cavings. |
| 12330-12350 | SANDSTONE; pale orange to white, continued as above, no fluorescence stain odor or cut, predominantly black and varicolored SHALE cavings. |
| 12350-12370 | SANDSTONE; pale orange to light gray, friable, occasionally firm, fine grained, subangular, slightly calcareous, well sorted and consolidated, trace lower medium grained, poor sorted, tight throughout, predominantly SHALE cavings. |
| 12370-12390 | SANDSTONE; pale orange continued as above, abundant unconsolidated medium to upper fine grained, well rounded to subrounded clear to frost quartz grains, inferred porosity, abundant milky white to orange bitumen flour, no fluorescence stain odor or cut, abundant SHALE cavings continued as above. |
| 12390-12410 | SANDSTONE; very pale orange to white, friable to firm, fine grained, subangular, moderately well sorted and consolidated, occasionally slightly calcareous, occasionally loose well rounded medium grained quartz grains, abundant milky white bit flour, no visible porosity, no fluorescence stain odor or cut, abundant varicolored SHALE cavings. |
| | DRILLERS TD 12,410', 9:20 AM, 12/27/07 |

Sundry Number: 70401 API Well Number: 43047396460000 FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

| STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES | | | FORM 9 | | | | | | |
|--|--|---------------------------------------|--|--|--|--|--|--|--|
| | 5.LEASE DESIGNATION AND SERIAL NUMBER: 2OG0005577 | | | | | | | | |
| SUNDF | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE | | | | | | | | |
| | oposals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals. | | 7.UNIT or CA AGREEMENT NAME: | | | | | | |
| 1. TYPE OF WELL Gas Well | | | 8. WELL NAME and NUMBER: NHC 14-8-15-20 | | | | | | |
| 2. NAME OF OPERATOR: WIND RIVER RESOURCES CO | DRP | | 9. API NUMBER: 43047396460000 | | | | | | |
| 3. ADDRESS OF OPERATOR: 1245 E Brickyard Rd Ste 11 | 0 , Salt Lake City, UT, 84106 | PHONE NUMBER: 801 466-4131 Ext | 9. FIELD and POOL or WILDCAT: WILDCAT | | | | | | |
| 4. LOCATION OF WELL FOOTAGES AT SURFACE: 0195 FNL 2419 FWL | | | COUNTY: UINTAH | | | | | | |
| QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NENW Section: | HIP, RANGE, MERIDIAN: 17 Township: 15.0S Range: 20.0E Merio | lian: S | STATE: UTAH | | | | | | |
| 11. CHEC | K APPROPRIATE BOXES TO INDICAT | E NATURE OF NOTICE, REPOR | RT, OR OTHER DATA | | | | | | |
| TYPE OF SUBMISSION | | TYPE OF ACTION | | | | | | | |
| , | ACIDIZE | ALTER CASING | CASING REPAIR | | | | | | |
| Approximate date work will start: | CHANGE TO PREVIOUS PLANS | CHANGE TUBING | CHANGE WELL NAME | | | | | | |
| 7/1/2016 | CHANGE WELL STATUS | COMMINGLE PRODUCING FORMATIONS | CONVERT WELL TYPE | | | | | | |
| SUBSEQUENT REPORT | DEEPEN | FRACTURE TREAT | NEW CONSTRUCTION | | | | | | |
| Date of Work Completion: | OPERATOR CHANGE | ✓ PLUG AND ABANDON | PLUG BACK | | | | | | |
| | PRODUCTION START OR RESUME | RECLAMATION OF WELL SITE | RECOMPLETE DIFFERENT FORMATION | | | | | | |
| SPUD REPORT Date of Spud: | REPERFORATE CURRENT FORMATION | SIDETRACK TO REPAIR WELL | TEMPORARY ABANDON | | | | | | |
| | TUBING REPAIR | VENT OR FLARE | WATER DISPOSAL | | | | | | |
| DRILLING REPORT | WATER SHUTOFF | SI TA STATUS EXTENSION | APD EXTENSION | | | | | | |
| Report Date: | WILDCAT WELL DETERMINATION | OTHER | OTHER: | | | | | | |
| 40. DECORUDE DECORUSE OF | | | | | | | | | |
| l . | COMPLETED OPERATIONS. Clearly show a ces Corporation hereby prov | | Accepted by the | | | | | | |
| | the subject well per the atta | | Utah Division of | | | | | | |
| | approved by the BLM. | | Oil, Gas and Mining | | | | | | |
| | , | | Date: March 24 2016 | | | | | | |
| | | | March 24, 2016 | | | | | | |
| By: Usr K Junt | | | | | | | | | |
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| | | | | | | | | | |
| NAME (PLEASE PRINT) | PHONE NUMB | | | | | | | | |
| Marc Eckels | 435 901-4217 | Agent | | | | | | | |
| SIGNATURE N/A | | DATE 3/14/2016 | | | | | | | |

Sundry Number: 70401 API Well Number: 43047396460000



Flat Rock Field

PERTINENT INFORMATION

API No.: 43-047-39646

Surface Location: NENW Section 17

Township 15 South, Range 20 East

Uintah County, Utah 195' FNL, 2419' FWL

Elevation: 7243' GL, 7259' KB (16' KB)

TD: 12,409' KB

PBTD: 8602' KB (cement in casing)

Casing: 9-5/8", 36.0#, J-55 @ 2683', cemented to surface

4-1/2", 11.6#, P-110 @ 8673', cemented to 2540' KB

Tubing: 2-3/8", 4.7#, N-80 to 8298'

Production Casing Specs: 4-1/2", 11.6#, P-110, ID: 4.000", Drift: 3.875", Collapse: 7580 psi,

Burst: 10,690 psi (70% 7483 psi)

Tubing Specs: 2-3/8", 4.7#, N-80, ID: 1.995", Drift: 1.901", Collapse: 11,780 psi, Burst:

11,200 psi (80% 8960 psi), Joint: 104,340 lbs (80% 83,472 lbs)

Capacities: 4-1/2" 0.0155 Bbls/ft 0.0873 ft³/ft

2-3/8" 0.0039 Bbls/ft 0.0217 ft³/ft 4-1/2" x 2-3/8" 0.0101 Bbls/ft 0.0565 ft³/ft

BH Temperature: 185 °F (estimated)

Completed Intervals: Mancos: 7420' - 7450' (30 holes), 8350' - 8380' (30 holes)

PROCEDURE

- 1. MIRU service unit.
- 2. Pump produced water to fill wellbore and kill well. ND wellhead and NU BOP.
- 3. PU tubing as needed and RIH to tag PBTD. Pull tubing up to 8430' KB.
- 4. Top off well bore with water. Mix and pump 16 sks (3.3 Bbls) of cement down tubing, displace with 31.5 BW, and pull tubing out to leave balanced cement plug from 8430' to 8250' KB.
- 5. POOH with tubing.

Sundry Number: 70401 API Well Number: 43047396460000

Page 2 North Hill Creek 14-8-15-20 P&A May 21, 2015

- 6. RIH with a 4-1/2" cement retainer (CICR) on tubing and set it at 7370' KB.
- 7. Mix and pump 12 sks (2.5 Bbls) of cement and displace so 7 sks (1.4 Bbls) of the cement go below the CICR. Pull out of CICR and to 7300' to dump other 5 sks (1 Bbl) of cement on top of cement retainer.
- 8. Circulate to fill 4-1/2" casing with 9 ppg mud (110 Bbls).
- 9. POOH laying down tubing and setting tool.
- 10. RIH with open-ended tubing to 4850' KB.
- 11. Mix and pump 11 sks (2.2 Bbls) of cement down tubing, displace with 18 BW, and pull tubing out to leave balanced cement plug from 4850' to 4710' KB.
- 12. POOH with tubing to 2733' KB.
- 13. Mix and pump 10 sks (2.0 Bbls) of cement down tubing, displace with 10 BW, and pull tubing out to leave balanced cement plug from 2733' to 2613' KB.
- 14. Finish POOH with tubing.
- 15. ND BOP.
- 16. RIH with a mechanical casing cutter and cut holes in the 4-1/2" casing at 60'. POOH with tubing.
- 17. Mix and pump 23 sacks (4.7 Bbls) of cement to circulate 60' surface plug into place in 4-1/2" casing and 9-5/8" x 4-1/2" annulus.
- 18. Cut all casing off 3' below ground level. Weld a plate showing well name, location, and API Number to casing. Back fill as needed to fill cellar and cover well.

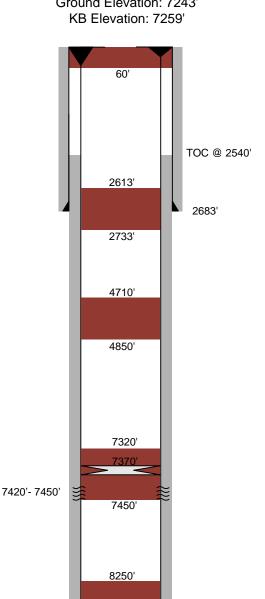
Sundry Number: 70401 API Well Number: 43047396460000

Wind River Resources Corp. NHC 14-8-15-20 API # 43-047-39646 **Flat Rock** SHL: NENW, Section 17, T15S, R20E **Uintah County, Utah**



(Not to Scale)

Ground Elevation: 7243'



8350'- 8380'

8430'

8700'

8900'

10,649'

11,049'

11,954'

12,254'

TD = 12,409' KB

8602' 8673'

Deviated Well

Surface Hole: 195' FNL, 2419' FWL, NE-NW, 17-15S-20E

Bottom Hole: SE-SW, 8-15S-20E

Surface Casing

Size/Wt/Grade: 9-5/8", 36#, J-55, STC, 8rd

Depth Landed: 2683' KB

Cement Data: Cement to surface.

Production Casing

Size/Wt/Grade: 4-1/2", 11.6#, P-110 LTC, 8rd

Properties: 10690 psi burst, 3.875" drift, 4.000" ID, 0.0155 Bbl/ft capacity

Depth Landed: 8673' KB

Cemented to: 2540' KB per CBL

Perforations

7420'- 7450', 30 holes - Mancos 8350'- 8380', 30 holes - Mancos

Plugged-Back TD

8602' CBL Tag 11/13/2006

Tubing

Size/Wt/Grade: 2-3/8", 4.7#, N-80, 8rd EUE

EOT @ 8298' KB

All intervals between cement to be filled with 9 ppg mud